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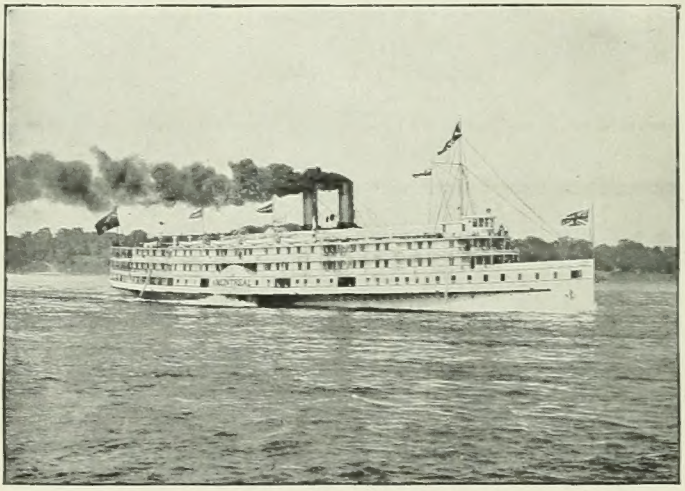

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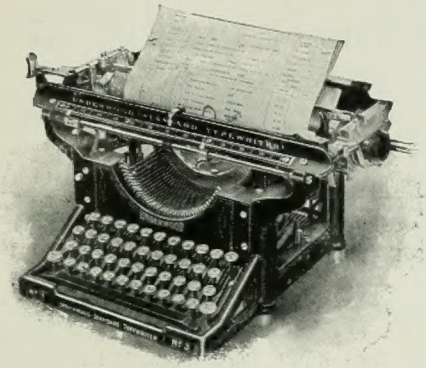

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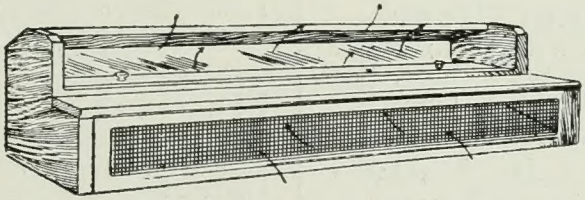

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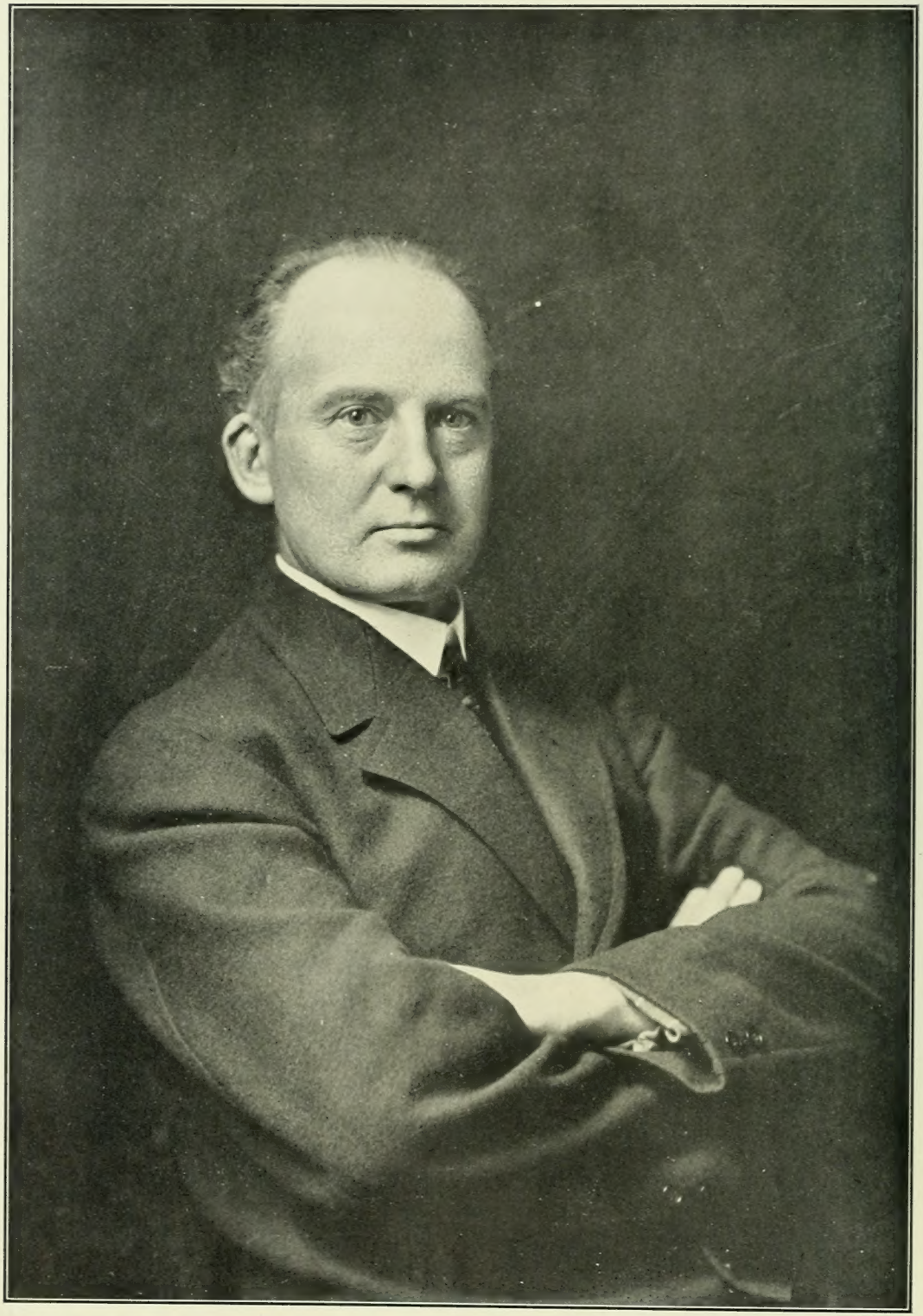

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The
Canadian Therapeutist
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INCORPORATING THE CANADIAN JOURNAL OF PUBLIC HEALTH
Vol. I JULY, 1910 No. 7

Special Articles

THE FOOD VALUE OF MILK

By CHAS. J. C. O. HASTINGS, M. D.
Chairman of Canadian Medical Association Milk Commission

Before considering the dangers of contaminated milk and the means of overcoming these dangers, one naturally asks the question: Is milk, as a food, worth all this trouble? Is there no other food that could take its place? To this last question we emphatically say, NO! If people knew a little more of the value of this food they would be more interested in the methods of its production.

All authorities on diatetics, and in fact the entire medical profession is a unit in the statement that: "Milk is the most valuable single article of diet we possess." It constitutes, or should constitute, practically the sole diet of both infants and invalids, and is a valuable adjunct to the dietary of all. For instance, one quart of good fresh milk is equivalent in food value to one pound of beef, or three quarters of a dozen eggs, or four or five gallons of beef broth or beef tea, or a dollar's worth of oysters, etc., and when we couple with this the fact that in most institutions the cost of cooking and serving the food is greater than the cost of the food itself, the economy of milk as a food is made quite apparent.

To all of us, as we are aroused from our slumbers, by this all-important problem, it may at first seem more or less altruistic. But is it so? Would we tolerate for a moment any other article of diet being placed on our tables that is produced in the same filthy way that milk is usually produced? Imagine a man who has been cleaning horses and cleaning out stables, etc., coming in and mixing up our pastry, or kneading our bread without even washing his hands!

Let us be consistent, and the demand for clean milk will not seem inconsistent; but we must be willing to pay for it. We must remember that dairying is not a very profitable business, and that few men receive less remuneration for the discomforts endured, and labor expended than do the milk producer and vendor. However, I am quite convinced that when the public are sure that they are getting a clean, good, safe milk, they will be willing to pay more for it, but they want to know that they are getting what they are paying for. Meat may advance two or three cents a pound, eggs may advance five or ten cents a dozen, and butter five to fifteen cents a pound and other foods also, and there is little comment made, but if milk advances one cent a quart, an awful hue and cry is heard, and why is it so? Simply because we don't think. An increase of one or two cents a quart only means $3.65 or $4.30 per year, and when we place against this the probable expense of doctor and medicine, the loss of time, the loss of rest, the many anxious hours and the heartaches through the loss of a little one from the home, surely the food, through which, by contamination, life is so jeopardized, is the last upon which we should economize. There are, however, many advantages to the owners of herds as a necessary outcome of this milk reform. First the increased productiveness of cattle properly fed, housed and groomed. Second, the advantages arising from the gradual removal of tuberculous cows from the herds which they would otherwise rapidly infect. We have had a valuable illustration of this in the state of New York, in 1894, of 947 tested with tuberculin 66 reacted or 6.9 per cent., and in 1897-1898, of 1,200 tested, 163 reacted or 18.4 per cent., an apparent increase in these herds of 11.5 per cent. in four years. It is a noteworthy fact that cows may have tuberculosis for years without giving any physical symptoms of it. This is attested by all veterinarians.

It has taken years to educate the medical profession and the public to the fact that all disease is due to the presence of germs that have gained access to our bodies either by being inhaled into our lungs or taken into our stomach in food or drink. However, since this fact has been established, every precaution has been taken by both physician and surgeon by means of rigid cleanliness and antiseptics in all surgical procedures, and by careful isolation of patients and disinfecting of all excreta, etc., in medical cases. It is only within the past few years, however, that attention has been drawn to milk as one of the most fruitful sources of infection, yet one can readily understand how difficult it is for those not familiar with germ life to comprehend the rapidity with which these germs multiply when placed under favorable conditions for doing so, and milk, if kept in a warm room, affords one of the best conditions. It has been repeatedly demonstrated in the best laboratories on the continent, that milk containing, say 3,000 germs to the teaspoonful to-day will, if kept at the temperature of a living room, contain over 10,000,000 at the corresponding hour to-morrow, while the same milk if kept at a temperature of 35 or 40 degrees for the same time would show little or no increase in the number of germs. It is quite apparent that milk is the most sensitive of all foods to bacterial contamination and yet many of those who handle it have no knowledge of hygiene or of the extent to which they are endangering human life by careless methods; in fact the only qualification necessary in most cases for an employe, is that he is a good worker. The physician prescribes a milk diet for his patient and also medicine, the man who prepares the medicine is required to have spent three years under the instructions of a

qualified chemist in practical work in a drug store and one year at college, and then pass a rigid examination in order to obtain his license, and if by chance a patient is poisoned by a mistake or any act of carelessness on the part of the aforesaid chemist, he has to stand his trial for manslaughter, and justly so. On the other hand seldom does either the attending physician or the patient know anything about the source of the milk supply that the patient is getting, or the conditions under which it is handled. Oftimes the chemist is called upon to dispense simply an antidote or something to help nature battle with the poison taken in the milk. We have hundreds of children poisoned in our city every year by milk. What would the result be if an equal number were poisoned by canned goods or in fact any other kind of food? If a man is run down or killed on an unguarded crossing or through defective guards on our street cars, the finding of the coroner's jury is "criminal negligence." How much longer will we thus discriminate?

It must not be forgotten, however, that the care of the milk, after it is delivered at the homes, is quite as important as when with the producer and vendor. Have your milkman leave the milk in a shaded place. It should be immediately placed in a refrigerator at a temperature not higher than fifty degrees Fah. If there is no refrigerator, place the vessel containing the milk in a pale of cold water, which should be frequently renewed, and kept in the coolest part of the house. It should be kept in a tightly closed vessel, so as to prevent the possibility of contamination with dust or unpleasant odors, but more especially is the common house-fly to be dreaded. The danger from this latter source can not be too much emphasized, as one minute it may be in contact with excretion from a typhoid or a tubercular patient, from which it might carry thousands of bacteria on its feet, and the next moment in an open vessel containing the milk supply for the home.

SOME PRINCIPLES OF SEWAGE DISPOSAL

The Septic Tank

By T. AIRD MURRAY, M. Can. Soc. C. E.
Consulting Engineer of the Saskatchewan Bureau of Public Health

Last month we considered some of the general principles relating to the various stages employed in rendering sewage inoffensive, both from an esthetic and sanitary point of view.

We will now consider more particularly the oft-referred-to "Septic Tank."

We have seen that the first process, generally employed in the various stages of sewage purification, is that of sedimentation; by which, the grosser solids are kept back, and the liquid sewage allowed to flow on for further purification.

Sedimentation is brought about by allowing the crude sewage to stand or flow very slowly through tanks constructed so that the heavier matters sink to the base and the floating matters are retained by means of scum boards.

Now, a septic tank is essentially, in construction, only a sedimentation tank and nothing more.

It is in the method of working the tank that it becomes septic. If the matters which settle to the base and the matters which float on the surface are allowed to remain in the tank until putrefaction commences, then the tank is septic; otherwise it is just a plain sedimentation tank. This principle is not always thoroughly understood by those who talk of septic tanks. An opinion has existed, and still exists, with some, that the septic process is a complete one of sewage purification, and that some mysterious microbic process goes on which renders the sewage innocuous. Now, nothing of the kind happens; in fact, the liquid sewage from a septic tank is, from an esthetic point of view, more objectionable than the crude sewage, and from a sanitary or bacteriological point it is just as objectionable.

The septic process was first introduced as an improvement on ordinary sedimentation tanks in 1895, at Exeter, England, by Mr. Cameron, the City Engineer. He never made any claim to sewage purification by the process, but he did make some other very definite and important claims. These claims have been advertised broadcast, and although to some extent they are justifiable, generally, experience has proved them to be fallacious.

The claims were as follows:

(a) That by allowing the settled and floating matter to remain in the tank, all such matter gradually disappeared by the natural process of putrefaction.

(b) That the above process of elimination of solid matter was the result of microbes, which being constantly supplied by the inflowing sewage, performed their work best when light and air were excluded from the tank.

(c) That the liquid which flowed from the tanks was much more easily oxidised than fresh sewage, and was generally more amenable to treatment by filtration, either on land or on special filter beds.

(d) That most, or even all, of the pathogenic bacteria were killed by the septic process.

All the above claims have been most thoroughly investigated, not only in Great Britain, where they were first made, but also in Germany and in the United States.

The claim which gained the most attention, and in fact the claim which gained for the septic tank its world-wide reputation, was that of the "elimination of solids."

Solids, or "sludge" as they are collectively called, has provided the most diffi-

cult and expensive factor in dealing with sewage.

Before 1895 it was the general practice to insist on the removal of all settled solids or sludge from the tanks while it was fresh and before it commenced to ferment and give off gases. Almost every treatise on sewage disposal made it clear that the sewage must be delivered fresh at the works and treated in that state.

There were one or two exceptions to this general rule; but there were few instances, indeed, where it was contended that anaerobic putrefaction would assist in sewage disposal to any defined extent. Most of the exceptions were accidental, being the result of neglect.

When the settled sludge was removed from the tanks in a fresh state the real trouble in sewage disposal made itself manifect. It was found that this sludge contained 90 per cent. of water, and before anything could be done with it, it required drying either in lagoons or by mechanical presses, and that even after it was rendered portable it was still a useless by-product. It was buried out of sight in the land, and at times farmers carted it away. The sludge difficulty was a real difficulty.

We can readily understand, then, when Mr. Cameron appeared to demonstrate that the difficulty would solve itself, if only left alone, the septic process of the total elimination of sludge by natural decomposition appealed directly to the practical man as well as to the man of science.

At first sight the septic process did appear to be the solution of the sludge difficulty. Analogies were drawn from the ordinary country house cesspool, neglected for years, and yet in which much solid matter did not accumulate. Sedimentation tanks, from which the solids had been regularly removed, were worked on the septic process, and in many cases such tanks were enlarged or new tanks built providing greater capacity in which the dissolution of the sludge might take place.

The most striking evidence was at first obtained as to the supposed efficiency of this septic sludge elimination. For instance, it was found that after the sludge obtained a certain height in the tank and the floating matter a certain thickness, that neither increased, this was at once called the point of equilibrium. The tank had obtained its maximum efficiency and no further increase of sludge was evident. Measurements of the sludge were taken from time to time, and it was made apparent to all, who could read the inches on the measuring rod, that the sludge question was solved.

We are not surprised at this world-wide acceptance of a revolution in tank process; and, if the sludge elimination claim had only held good, we could easily afford to neglect the other claims.

The fifth report of the Royal British Commission on Sewage Disposal published in the latter part of 1908, however, contained a lot of exact information and data relating to the septic claims which were partly anticipated by a few experimentalists, but were a complete surprise to many.

The City of Toronto at that time was fully prepared to install septic tanks in connection with its sewage disposal problem. Another form of tank, however, has now been substituted which does not allow of septic action.

The Royal Commission carried out experimental work at the parent septic tank at Exeter, and concludes as follows:

"All the organic solids present in sewage are not digested by the septic tanks. With a domestic sewage, and tanks worked at a 24-hour rate, the digestion is about 25 per cent.

"The liquor issuing from a septic tank is, bacteriologically, almost as impure as the sewage entering the tanks.

"Domestic sewage which has been passed through a septic tank is not more easily oxidized in its passage through filters than domestic sewage which has been subjected to chemical precipitation or simple sedimentation."

The first paragraph, that only 25 per cent. of the sludge was digested was the deadly blow.

How then do we account for the apparent fact of the point of equilibrium at which no increase of sludge made itself evident?

The answer is a simple one, and was observed in experiments made by the Massachusetts Board of Health several years ago, viz, that the bubbling action of the rising gases, caused by the septic action, increased the amount of sludge in fine particles which passed off with the liquid from the tank.

Another reason for the point of equilibrium is found in the fact that sludge left in a tank compresses into small space; for instance, septic sludge contains only 80 per cent. of liquid as against 90 per cent. with fresh sludge.

The Royal Commission found that with thirteen septic tank installations the average amount of sludge retained in the tanks was only 55.7 per cent. of the whole, while the remaining 44.5 per cent. actually passed off in the liquid.

We see at once then, that the main claim which boosted the septic tank process was based on false premises and that the sludge difficulty still remained.

Not only did the sludge difficulty remain, but it remained at the wrong end of the tank, that is the outlet end.

It is acknowledged on every hand that the successful purification of sewage, either by land or artificial filters depends mainly, in the first instance, an the efficiency of the retention of the solids.

In proportion to the amount of solids retained, depends the fineness of the filtering material which can be used, and in proportion to the fineness of the filtering material depends the extent of purification obtained, especially from the sanitary or bacteriological point of view. We are not surprised when we read, that at Hamburg, it took six times the area of filter to deal with septic sewage liquor than with fresh sewage liquor.

The last two years have witnessed a decided re-action and the tendency now is to obviate as far as possible all septic or anaerobic action, at least as far as the liquid sewage is concerned.

When it is desired to take advantage of the above 25 per cent. reduction of sludge by putrefaction and obtain the sludge in a more compressed form than can be obtained with a fresh sludge, then the septic action is allowed to take place in tanks which are kept separate from the flowing sewage liquor. Recently many improvements in the form of tanks have been brought out, embodying the above principle. The author in reviewing the Royal Commission Report before the Toronto Engineers' Club, in December, 1908, stated as follows:

"The only point in its favor (the septic tank) in comparison with other methods, appears to be in the fact that a percentage of the sludge is dissolved by putrefaction and hydrolysis. The main point against it, is that the suspended matter increases in the effluent as time goes on. This suggests that if it is desired to get rid of part of the sludge by putrefaction, then this putrefactive process should take place apart from the liquid sewage. This could be done by withdrawing the precipitated sludge immediately from the sedimentary tank into other tanks built especially for its reception in which septic action could be carried on for any length of time desired without affecting the effluent liquor."

The above quotation practically outlined the modern improved sedimentation tank.

SOME HOUSEHOLD INSECTS

And Their Neighbors

By F. W. WAUGH

Increased attention is being paid from year to year to insects and other animal forms which are instrumental in spreading disease. The part played in the spread of malaria by the mosquito of the genus Anopheles, and that of Stegomyia calopus in yellow fever, have, we believe, been established to the satisfaction of medical men generally. Attention is now being paid to other agencies. Insects which bite, bore, sting and disseminate disease germs by running over foodstuffs are being studied from this point of view.

Exact knowledge along this line is in demand and a new field is opened up to the entomologist, the biologist, and the physician. Not only have the true characters of certain insects as disease spreaders to be established, but the reputations of others must be cleared and their usefulness to the hygienist properly understood.

There seems to be good reason to suspect the common mosquito (Culex pungens) of spreading certain kinds of disease. We have cases in which erysipelas apparently developed from a mosquito bite. The mosquito might also be a medium for the spread of anthrax, from his habit of biting domestic animals as well as people.

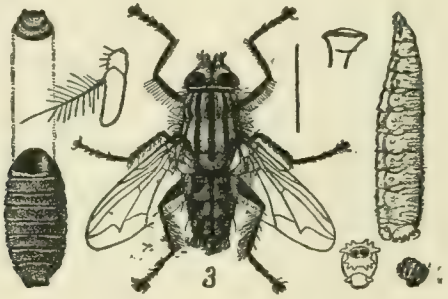
The house-fly is quite justly regarded as a ring-leader among the disease disseminators. He has been very well named "the typhoid fly"; but this term only partially describes his crimes. The trouble lies largely with his filthy feeding habits, as well as his impartiality in evacuating on and running over foodstuffs. Flies are known to go directly from tuberculosis sputum and excreta of various kinds to the table or the pantry. This can be proved by making a gelatine or other culture of their footprints. Dysentery is also said to be communicated by the house-fly.

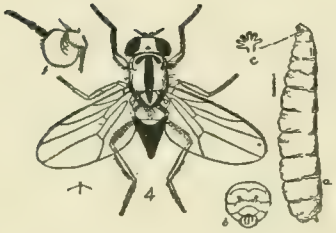
There is no doubt that other flies which live in and around houses are injurious in exactly the same way as the house-fly, though perhaps not so largely, on account of their less domestic habits. Among these are the Stomoxys calcitrans or biting stable fly, also Homalomyia canicularis and H. brevis, small flies of the house-fly type, belonging to the family Anthomyiidae. The stable-fly very closely resembles the house-fly. This is the kind which "bite before a rain."

The flesh flies (Family Sarcophagidae) comprise quite a number of species, among the more conspicuous being Lucilia Caesar or the green-bottle fly, Calliphora erythrocephala (blue-bottle), Sarcophaga sarracenia (the big grey blow-fly), Compsomyia macellaria and a number of small flies of the genus Helicobia. The latter frequently feed, in the larval stage, upon dead insects. The whole group may become conveyors of infection by running over food. Several cause serious and even fatal maladies by depositing eggs in the ears or nostrils or under the skin of infants (myiasis).

This class, though of the house-fly type, are less likely to infest houses, probably on account of being noisier and more conspicuous. They breed almost exclusively in decaying animal matter. To get rid of them, remove all material of this sort. Screen doors and keeping food under cover are also necessary.

It has been said for these flies that they





1.—Lucilia Cæsar (Green-Bottle).
2.—Calliphora erythrocephala (Blue-Bottle)
3.—Gray Blow-Fly.
4.—Gaurax anchora.
5.—Small Fruit Fly.
6.—Squash Bug.
7.—German Cockroach.

are useful as scavengers, but, in cities at least, the responsibility for removing filth can never be safely shifted to flies or any such chance agency.

The house-fly breeds in stable manure by preference; also in privy vaults; garbage boxes, when left undisturbed for a few days; and in excrementitious material generally. The eggs hatch in some six or eight hours under ordinary conditions, becoming, like the larvae of the preceding species, little pointed white maggots, which grow quite rapidly, are very voracious, cast their skin twice and usually reach full growth in four to five days. The outer skin then hardens, the form becomes more distended or thicker, the color changes to a dark brown and the adult issues in about five days from a small hole in the end. This gives approximately ten days for one generation of flies. The number of eggs laid by an individual fly is said to average about 120, which indicates the enormous possibilities for breeding, especially when the short development period is taken into consideration.

A knowledge of the fly's habits gives a suggestion as to methods of extirpation. Important among these are the collection of garbage and stable manure in the summer at intervals of time which will prevent the larvae from developing. This, evidently, could not be left off for longer than three days. Preventive methods always pay better than hospital appropriations, and chloride of lime applied once a week to manure receptacles is said to be effective.

Insect enemies are sometimes encouraged with good effect. The fly has a number of such. A small red parasitic mite is sometimes found upon the house-fly, as upon certain other insects. Flies also die of fungoid diseases. In one of these the flies are found behind picture-frames and in out-of-the-way places dead and covered over with a grey, furry substance. Another fungoid disease distends the body and gives a striped appearance after death. Many thousands are killed by these diseases, though their action is suspended with the arrival of cold weather. The motor-car, by lessening the number of horses kept in cities, might easily become a factor in the destruction of flies.

A number of the smaller flies must also be arraigned as enemies of the householder. These are liable to escape attention on account of their smallness, but are conveyors of disease germs by alighting on food after trailing through filth.

One of these families is the Oscinidae, little flies, dark and shining or yellowish in color and more or less stout-bodied. The larvae breed in grass stems or decaying vegetable material, etc. Gaurax anchora is also a scavenger. One of this family is the cause of the "pink-eye," of the Southern States. The Borboridae are small flies, dark in color, with clear wings, breeding almost exclusively in manure. These are scavengers and are suspected of spreading disease. The Drosophilidae or little fruit flies should also be placed upon the list. The commonest of these is Drosophila ampelophila. This fly is fond of canned fruits and pickles and breeds around the tops of insecurely sealed fruit-jars. It frequents foul and decaying materials and consequently may be regarded with suspicion.

Flies form a most interesting subject for study. Their speed in flying is quite remarkable. The writer has noticed house-flies and other species spring upon a berry bounced along the pavement, inspect it and alight upon the pavement again while the berry made a single bounce.

The horse-fly or deer-fly (Chrysops fugax), is a fair sized fly with mottled wings, which alights almost noiselessly

9.—Periplmeta orientalis (Cockroach).
10.—Epeira patagiata (Garden Spider).
11.—Silver-Fish.
12.—Spring-Tail.
13.—Sow-Bug.
14.—Deer-Fly.
15.—Ox-Fly (Labanus).

upon the face or neck on bright days and inflicts a sharp bite. No poison, apparently, is injected, but the insect should be regarded as a possible distributor of such diseases as may be conveyed from animals to people—anthrax, for example. The female alone does the biting, as with the mosquito and the biting flies generally. The large black horse or ox-fly (Tabanus atratus) also has a habit of biting domestic animals. Horses are much afraid of this insect, which seems to fly about chiefly in sunny places. Neither of these flies is very prolific, the larvae breeding in stagnant water. Kerosene applied to the surface has been suggested as a preventive.

Reference to the flies would be incomplete without the mention of the black-flies and minute sand-flies of the northern woods. These both belong to one genus, Similium, and are small, stout, hump-backed flies with broad wings and short legs; the latter are sometimes speckled. They have short, straight, simple antennae and attack not only people, but domestic animals. Death is sometimes produced from the poison injected, as well as from loss of blood. These flies breed in running water, the larvae attaching themselves to logs and similar objects. Their numbers have frequently been lessened by removing logs and other rubbish which has collected in the water.

Among the more important natural enemies of the fly, the spider must be given a high position, although his services are very ill rewarded as a rule. The spider's web, while it can hardly be tolerated in the living room, should certainy be accorded some protection in the out-of-the-way places. This applies more particularly to the species which live about houses. Among these are the makers of the light webs found in the corners of rooms, Theridium tepidariorum, occasionally those of Steatoda borealis and S. triangulosa. In cellars, the thin webs found about the steps, corners, shelves, etc., are those of the long-legged Pholcus phalangioides, Phalangium cinereus (daddy-long-legs), and Linyphia nebulosa or minuta. The thick, flat webs in corners and between beams are those of Tegenaria derhamii. On the outside of houses live two jumping spiders. These are very interesting from their habit of creeping up closely and then leaping upon the flies. The most common is Epiblemum scenicum, a small grey species; the other, a much larger one, is Marptusa familiaris. A number of the Epeiridae, or brown spiders making round webs, construct their webs in porches, barns and similar positions. The abdomens of these are marked laterally by zig-zag patterns. These include Epeira sclopetaria, E. patagiata, E. strix and E. globosa. A northern variety is E. cinerea. Other varieties found around the outside of houses are Zilla atrica and Z. x-notata. Several Dictyna live in considerable numbers in windows, cracks, under the edges of shingles, etc. A large imported species, Amaurobeus ferox, is sometimes found in cellars. The webs often become overloaded with dust, necessitating the construction of new webs.

There seems to be a somewhat unreasonable aversion to the spider. This would probably be dispelled upon better acquaintance. The spider is inclined to take care of himself when cornered up, especially the larger species, but it hardly seems likely that they bite under ordinary conditions. The bite, when it shows any markings, should show the two punctures made by the pair of mandibles. Among the enemies of the spider, and consequently friends of the fly, would be the solitary wasps which supply spiders to their larvae or young. By a little care, spider destruction could be greatly lessened.

Some of the solitary wasps supply flies to their larvae, thus making up, to some extent, for the harm done by their spider-killing relatives. Dragon-flies are extremely useful. These are, perhaps, more especially destructive to mosquitos. Insectivorous birds, toads and frogs are all fly destroyers, in which work they are, no doubt, assisted by fishes, turtles and water-newts. The water animals, no doubt, destroy many larvae of such insects as breed in the water. Many snakes are also insectivorous. The water-skater will devour flies with great relish when they alight within his reach. The skater is a true bug, though spider-like in appearance. These are characterized by strong biting and sucking mouth parts. The skater lives by attacking and sucking the juices of insects.

The squash-bug is also a true bug and thus a relative of the water-skater. These insects bite when squeezed, but occur only occasionally in any quantity. Insects of this order were responsible for the "kissing-bug" scare of a few years ago.

Parasitic forms, such as lice, fleas and bed-bugs are probably responsible for the spread of disease to a much greater extent than is usually suspected. These would include diseases the germs of which are capable of being ingested with the blood.

Various forms of Coleoptera live in and around houses, particularly where foodstuffs are stored. The small larder beetle, belonging to the Dermestidae (skin-eating insects), is one of these. These live very largely on the drier class of materials, but make great havoc with dried or smoked ham and bacon. The meal worm is the larva of quite a large black beetle, Tenebrio molitor, which is also found in flour or meal receptacles. Beetles are also found under boards in the cellar or in damp places, and may occasionally be prejudicial to health by getting into foods which may be carelessly left uncovered.

Ants of several varieties are frequently an annoyance to householders. They are liable to run through or over filthy materials and then transfer them to the food over which they run. Among the commoner household varieties are a large black ant and an extremely minute red one.

Cockroaches are very common, especially in cities. Two varieties are frequently met with in houses. These are the small and light-colored German cockroach (Ectobia germanica), and, less frequently, a large black species (Periplaneta orientalis). Both of these are European importations. Insect powder or borax dusted about are said to be effective. These insects delight in trailing over foodstuffs.

The sow or pill-bug, which lives in damp places, is an uncleanly creature in its habits. This is really not a bug at all, but a crustacean. Another dweller in damp places, and a possible defiler of food, is the thousand-legs or centipede, a member of the Myriapoda. Lithobius is a large brown species; Julus, the dark, wire-like form.

The common snail or slug (Limax), which leaves a trail of slime over vegetables in the garden, or over foods placed in the cellar, should also receive a share of attention. Some study of these forms is still necessary to accurately apportion the blame for the production of unhealthful conditions, but their cleanliness and freedom from harmful organisms is always open to doubt.

Two rather small and obscure insects which attack foods left about, are the silver-fish (Lepisma domestica) and the spring-tail (Lepidocyrtus americanus). Pyrethum powder is destructive of these forms.

SCOPE OF A DOMINION HEALTH SERVICE

By P. H. BRYCE, M. A., M. D.
Chief Inspector of Immigration, Ottawa

As pointed out last month in my article on "The History of Public Health Legislation in Canada," quarantine marine hospitals, and the census were specifically placed under the Federal Government by the British North America Act. For a few years from 1878 onward, a weak attempt was made by the Federal Government to develop health work by the appointment of medical officers in the larger urban centres to make monthly returns of diseases. But it was soon abandoned, as there was no adequate machinery for developing the work, and no authority was assumed over city and municipal governments.

Some ten years ago the chief quarantine officer, with office at Ottawa, was designated Director-General of Public Health, and had added to his work the supervision of contagious diseases in the Territories and unorganized areas, and amongst the employes on railways, canals and other public works, receiving Federal subsidies. At a few seaports, medical officers were paid by the Department of Marine and Fisheries for caring for sick sailors; but in recent years this has been done mostly by an agreement to pay a per diem amount to some local hospital, and the former marine hospitals have been closed.

In 1904 the Department of the Interior and of Indian Affairs appointed for the first time a medical officer to organize and supervise the work of immigrant inspection, and the care of the health of the 100,000 or more Indians scattered throughout Canada in some 158 bands.

The Department of Inland Revenue has for many years had its chemists who have done much work, under the Act relating to the adulteration of foods, in establishing standards of purity in the matter of foods, milk, illuminating gas, etc.; while quite recently the examination of marine pilots as regards their general health and eyesight has been made more exact under the Department of Marine and Fisheries.

But in no branch has there been seen such great development as in that of the Department of Agriculture, where for ten years, the work carried out under the Director-General of Animal Diseases has assumed an importance in keeping with the enormous economic and health interests involved. Apart from the splendid abilities and energy of the Director-General in charge, it must be said that the remarkable progress in this service is probably more largely due to the political wisdom and knowledge on the part of the Minister of Agriculture of the practical needs of the situation from an economical and commercial standpoint, rather than to any well-defined duty laid upon him under the British North America Act. Not only have very large sums been spent annually in stamping out glanders, black-leg, mange, hog-cholera, especially in the Western ranges, but under the Act of 1907 a small army of veterinary inspectors have also been trained to inspect meat in all registered abattoirs engaged in the export meat trade. It is apparent that upon the assumption maintained for years that Public Health is relegated by the British North America Act to the several Provinces, this work of inspection is not intended to protect the health of the people of Canada but only serves, as

in a similar Federal service in the United States to protect the people of those countries which buy the inspected meat. The same commercial argument applies to the inspection of fruits and perhaps to the inspection of wines and liquors of the Inland Revenue Department.

I have attempted to ouline as briefly as possible the Public Health situation, Federal, Provincial, and Municipal, as they exist in Canada to-day, in order that we may be in a position to intelligently discuss the question of a "Dominion Health Service."

What are we to understand by the term? Resolutions have been adopted at different times by our medical associations and the matter of a Dominion Board of Health or a Dominion Bureau of Health has been discussed in parliament. But, so far as I know, no person has outlined any scheme, which, keeping in full order the situation of Federal, Provincial and Municipal health work as it exists to-day, provides for the existing Public Health machinery by some other organization; or, if this be deemed inexpedient or impracticable, then of so homologating existing Federal, Provincial and Municipal services so that one national Public Health Organization would be formed.

Personal hygiene is the basis of all national health; following this is household sanitation and then the work of Health Boards, Provincial organizations and Federal Health work. But just as all our attempts to have household and municipal sanitation supervised by Federal officers would be a failure, so it will be apparent that for a municipality—or even in some cases a Province—to attempt to deal with, let us suppose, the pollution of an international stream or control the growing problem of meat supplies—where the West sends its train loads to the East—or supervise the milk supply of a great city—located on an interprovincial or international border, and receiving its supplies from half a dozen Provinces or States—would be manifestly impracticable. Let us, therefore, see what does seem practicable and possible.

Taking first the communicable diseases it is apparent that the minor ones, as measles, whooping cough, etc., may properly be left to the jurisdiction of the local health and school authorities and to the household or family physician. The same may be said of that work of supreme importance, infant sanitation and feeding. On the other hand, pestilential diseases as smallpox and plague may demand the active interference of Federal and Provincial as well as municipal governments. But it is when we come to deal with what we may especially designate social and industrial diseases—as typhoid, depending often upon the pollution of a whole watershed situated in many counties and in two or more Provinces or States, or, that other disease, tuberculosis, especially influenced by urban conditions, as overcrowding, ill-ventilated workshops, overwork and lack of employment—that we find the necessity for the education of the whole people.

It is not only necessary to understand the effect of disease upon national life and economic power, but it is necessary also to realize that only by preventing child labor and the employment in factories of mothers of families; by the introduction of the most scientific devices for preventing the inhalation of dust; by encouraging some system of industrial insurance against sickness and establishing sanatoria for the working people that we can hope in any great degree to lessen the loss of the lives of our own people, more valuable to the State than can be any similar number of immigrants however good.

With the enormously rapid growth of

our industrial centres and the ever increasing demand for the products of our machine shops and industries of every kind, it is apparent that if we are not to see reproduced those diseases of degeneration, which have marked the industrial populations of Europe and have already produced their results in Massachusetts and other industrial centres on this continent, we must realize that we have a national task before us which demands the evolution of a National Health Service, with a complete organization, working along broad lines, and with well-defined aims.

The earliest of such services to be developed was that of the Local Government Board of England, which directs national health legislation, and through its model by-laws and inspection of municipal undertakings, as water supplies and sewerage, through Rivers Conservancy Boards and by directing housing and town planning, has done more than any other Board to bring the people into close touch with the operation of Public Health legislation.

Since Bismarck in 1871 created a German Empire composed with other States of the Kingdom of Prussia, dominant both as regards power and organization, there has grown up in every branch of the German public service, through a bureaucratic government, a system of laws and administrations which, whatever defects they may have, possess at any rate the supreme virtue that they are scientific, direct and effective. For instance in the matter of health, having determined that vaccination is an absolute preventative against smallpox, the German Government sees that all the people are vaccinated scientifically and inevitably. And DeWecker, having proved fifteen years ago at Gorbersdorf that during the thirteen weeks for which an insured workman is entitled to receive his sick benefit tuberculosis could be checked and in many cases cured, and that the country and the insurance companies can save money and lives by this scientific method, there was established by 1908 at least one hundred sanatoria with ten thousand beds, and Germany has what is called the Imperial Health Office at Berlin which originates laws, makes regulations and has the authority to direct the government of the several states to see to their enforcement down to the most remote "rural circle" or "commune," each of which has its executive committee or local board. It is at Berlin that the office and laboratories of the Imperial Health Office are established, from which emanate reports of scientific investigations.

In France the Government of the Republic similarly has charge of National Health legislation and directs the investigations officially through the "Superior Council of Hygiene of France." The Department briefly is divided into an administering branch under the Minister of the Interior, with a chief director and staff. Under him there is (a) The Bureau of Public and General Hygiene and the Bureau of Epidemics and Prevention. These two may be called the administrative branches of the Service. (b) The Superior Council of Public Hygiene of France—this may be called the consultative and advisory service and is composed of executive officers and professors of Hygiene and the heads of various departments, situated throughout France. (c) The Permanent Commission on Tuberculosis, which has its permanent office and staff, but whose members are composed of prominent professors and practitioners in medicine and many public officials and prominent citizens. (d) State thermal establishments. (e) Marine sanitary service. (f) Departmental sanitary services.

The French system is more directive

and less bureaucratic than that of Germany and perhaps less effective, but the existence of the Pasteur Institute with its many departments of investigation directly connected with the Public Health Service has so stimulated the progress of the science which "le Grand Maitre" created that nowhere do more or purer rays flow from the glowing sun of scientific investigation.

CONSERVING THE TREES IN MEXICO

By ROBERT J. DODDS

Canadians in recent years have been very much interested in the awakening of Mexico by the application of modern appliances and methods, and many of our fellow-countrymen are among those now engaged in that quaint land in developing electric power, building railways and in securing products from the mine, forest, field and plantation. When one considers that here in our portion of the continent the conviction is spreading that our forest wealth may in a few decades succumb to the greed of commerce, it is comforting to know that Canadians are among those now organizing a splendid reserve to ward off as long as possible the threatening timber famine.

Mexico is a land shadowed by luxuriant growths of trees. To the casual observer and reader that country may perchance carry only the thought of a burying place of vanished and vanishing races—the home of pottery Aztec relics and snakes; but the young and energetic Canadians who are going down into the land of the Aztecs yearly are bringing back to us new and truer views of Mexico. The samples of different kinds of timber, fruits, flowers, minerals and cereals brought to Canada each year are convincing evidence of the wonderful resources of that country.

The Canadian lumberman who has seen Mexico comes back with his eyes aglow and talks by the hour about the beautiful "leche maria, laurel, chico zapote, encino roble, rabo lagorto, cebia and asta." After you have been convinced that these are not handsome Mexican senoritas, but Mexican trees, you settle down with solid interest and absorb his most illuminating talk on the different timbers of the land of marvellous forest wealth and scenic wonders.

"That cigar box, there," says the returned expert, giving an impromptu object lesson, "is made of cedar which comes from Chiapas, and is worth about $120 per thousand feet in this country.

"That writing desk is of gateado wood, which grows in the State of Oaxaca. The trees are from fifty to eighty feet high, and from two to five feet in diameter. The lumber is worth here about $180 per thousand feet.

"The woodwork in this room is of red ebony, which grows in Tabasco, and is worth here about $150 per thousand feet.

"That armchair is of nanche wood, and that pipe yonder on the desk is made of chico zapote."

The returned timber connoisseur rapidly gives a short timber glossary containing the names, qualities and uses of Mexican trees, the names of which he rolls off his tongue as glibly as a native. He speaks of "zapote mamey, zapotille, ochoche, hullacan, roble blanco, gateado, colorado, beguco blanco, encino roble, balsamo, guanacasta, jicaco, picho, rosewood

and mahogany." These are hardwoods.

"Among the soft woods he mentions, judio nanche, leche maria, ruda, laurel, manzano, rabo lagarto, cebia, cedro, palo de agua, jobo, and manjagua."

Chico zapote is a very strong, close-fibred, straight-grained wood, and is exceedingly durable. In color it is a clear, deep, reddish brown, and it takes a beautiful polish. It is very valuable for cabinet purposes. The sap of the chico zapote is the basic substance from which is made chewing gum.

Hullacan is a fine-grained, brownish-yellow wood, used for furniture and railway ties. It is a straight-grained wood and consequently is easily worked. It is very durable.

Gateado is a most beautiful wood with a grain resembling black ash. The color is a mixture of yellow and dark brown. Gateado can be used for fine interior woodwork.

Cebia is a yellowish, soft-grained wood. The tree grows to a great height and is of basswood quality. One particular tree of this wood measured seventy-five feet by six feet, and contained 24,000 feet of lumber.

Palo maria resembles mahogany, but is lighter in weight and color. It grows to a height of from fifty to eighty feet and is a valuable cabinet wood.

Leche maria is a variety of palo maria, but is lighter in weight and softer.

Balsamo is a beautiful wood resembling English walnut, with a rich and attractive grain.

Mahogany, rosewood, lignum vitae and cedar are found in quantity.

It would seem, according to those intimate with the timber resources of the Mexican Republic, that the great wealth contained in its forests is practically unknown. It is estimated that the area of first class timber in Mexico comprises about 20,000,000 acres. The forests of pine and oak compare very favorably in quality with those of Canada and the United States; but until recently there has been no one to make use of the generous wealth of the Mexican forests.

The Mexican is largely a lethargic inhabitant, who puts off any proposed business activity with his recurring "manana" (to-morrow). This tendency is often aggravating to the active Canadian who goes into Mexico and does things "to-day." The native passes much time in dreaming of the "to-morrow," which the proverb says "never arrives."

So great has Mexican commerce with the rest of the world become, stimulated by foreign capital and industry, encouraged by railroads and steamboats, that the total foreign commerce of that country has reached many hundreds of thousands of dollars a year.

In these modern days the proprietor of forest wealth does not clear land by cutting it clean and then allowing it to burn over. Neither does he let the limbs of the trees cut rot upon the ground. Commerce and science have shown him that what were formerly considered useless substances are now valuable products. With a modern plant an almost complete utilization of all the timber in a district may be realized. From the waste materials the manufacturer may produce charcoal, wood alcohol, acetate of lime, and other valuable products, for which there is an unlimited local and foreign market. Charcoal sells at $35 per ton in Mexico City. All small hardwood trees, large branches and slab waste from the mill can be very profitably utilized. In the future, certain class of trees may be turned into pulpwood, for which there is ample demand.

The lumber and its by-products, charcoal, wood alcohol, chicle for chewing gum, etc., can be readily delivered at the Gulf of Mexico ports, where there are

great steamship lines in direct communication with the most important markets of the world.

The trees of the tropics have not yet been extensively used, save by the Indians for such purposes as poles for their houses, wheels for their ox-carts and material for their primitive sugar cane crushers. However, these simple uses have served to test thoroughly at least the durability and strength of several kinds of wood. The requirements of advanced civilization have forced a more thorough investigation. At present actual tests are proving Mexican timbers to be as valuable as the timbers of any part of North America. The soft woods are of fine texture, and while not possessing the durability of the tropical hardwood, can be used for the same purposes as the soft woods of northern countries.

Those familiar with the lumber trade of Canada, United States and Great Britain, will appreciate the fact that lumber of this rich quality, free from defects, can be manufactured and delivered for $20 per thousand feet.

The lumber manufactured from trees in tropical countries produces a very large percentage of what the lumbermen call 'firsts' and 'seconds,' graded according to the absence of such defects as knots, cracks, decay, etc. The jungles grow very thick, and in order for a tree to grow well it must grow high, the result being a long straight trunk, without any limbs, and almost as thick at the top as it is on the stump. Another advantage is that because the trees are growing all the time they do not have any dead limbs or any decay in the hearts.

Such trees when manufactured will produce a very high grade of lumber, and the quality will be much greater than that from trees of the same measurement in Canada.

In the States of Tabasco and Chiapas the mahogany tree grows very large. Some of these trees measure six feet in diameter, and sixty to eighty feet to the first limb. The fine quality of this wood is already established. Red ebony is a beautiful and symmetrical tree which forces itself upon your observation. Nearly everywhere it is conspicuous on account of its dense fibre, strength and wonderful durability. It takes a high polish. If properly introduced in Canada it might become more valuable than mahogany. It grows from two to five feet in diameter, and without limbs or knots from sixty to eighty feet.

Thus it will be seen that from the remarkable quantity and quality of the trees of Mexico, that country will be an important factor in supplying our markets with timber should our own timber supply ever become seriously decreased.

THE RUG AS A SANITARY CONVENIENCE

How to Select the Oriental Variety

By MAIBELLE HEIKES JUSTICE

It is undeniable that the movable rug, from hygienic points of view, is the most suitable floor adornment. But the choice of a rug in an artistic sense is open to question.

This is the day, however, of the antique Oriental rug, and the all-important consideration is in being able to select and know the antique, and being able to decide whether the dyes are analin or the old original vegetable dyes made by the rug-makers themselves. Unfortunately, nowadays there are more imitations than real antiques. The expert is able at once to designate each rug or carpet as to its locality and to its value. With the casual buyer, meanwhile, who has been only lately educated to the practicability of rug coverings for the home, it is a difficult matter to know just what to buy. Sometimes high prices are asked for rugs of inferior quality, rugs which would not be acceptable to the connoisseur.

As to the value of the real antique, however, the following incident will show what a matter of interest such a rug becomes when once it is within the grasp of commerce. About four years ago there landed among the emigrants of Castle Garden, New York City, a Turk who was eager to cast his fortunes in the United States. He did not even carry the emigrant's usual bundle of few belongings. The man had absolutely nothing but a rug wrapped about him. When examined by the officials, he did not have the stipulated amount of money required by the authorities. He could not locate any friend, or relative in the country. As a consequence, he was detained and was to be sent back to the place from which he came. While waiting in the "pens" one of the officials happened to notice the man's utter dejection and disappointment and lastly his sole possession. The rug itself was about eight by ten feet and although the man had it wrapped about him as a protection from the cold and as a sleeping blanket, it was a pretty good load to carry. The official spread the rug out on the bare floor and took a look at it. It was of unusual coloring and softness, and appeared to be in good condition.

Turning to another official he said:

"I believe this fellow could sell this for twenty dollars to some of those dealers up town. Where did you get it?" he asked the Turk.

"My family," said the man. "Him make fourteen year."

Which signified in other words, that his family had been fourteen years in weaving it—a very common occurrence in the Oriental lands.

"H'm," said the official. "And you want to be a citizen of the United States?"

The man's eyes rounded in eagerness. "Me nothing on earth," he said. "Me here last place to make living. Never go back, never!"

"The fellow seems a decent sort," the official said to the others about the detention office. "I've a mind to send someone up-town with him. If the man can get any money for his rug, I see no reason why he should not stay." A telephone call to an up-town dealer brought the reply that he would be glad to look at the

rug, and if saleable would give what it was worth.

Soon the Turk and his guide had landed at the Battery. Once reaching their destination, the rug was spread out on the floor and the experts gathered around. In a few moments a most spirited conversation began to take place. The man was closely questioned, and in what English they could get out of him, and in a little better French, they learned his locality and that the rug had been in his family as long as he could remember, and that his grandfather, father and mother had worked on it. All were dead but himself, and he had only kept the rug to cover himself in his wanderings over the face of the earth, chiefly in Oriental countries.

The rug turned out to be an antique Bokhara, one of the rarest and most valuable to be found to-day. The man was a member of the Bokhara tribes, a branch of the Turkish race, and lived most of his life in a tent. For many years this particular rug had been used as a portiere over his door, and the experts decided that it was a great deal older than the man represented it to be. In all probability it had been begun by a great-grandfather, and had been taken up in turn by succeeding generations. One end of the rug, of later weave, and slightly different color in the dyes, seemed to verify this theory.

"What do you want for it?" asked the expert.

The Turk shrugged his shoulders and shook his head. "Him say at the Garden twenty dollar—I have not that—just him," pointing to the rug.

"We are going to be honest with you," said the expert. "This is a valuable carpet, and while we shall try to sell it for more than we give you for it, we shall be fair and square with you and give you what it is worth to us as dealers." In a few moments he returned with a check for thirteen hundred dollars.

When the Turk was taken back to the Island and told how much the face of his check meant in his own money, he collapsed, and for a while it was thought he would die. The most distressed man about the office, however, was the official who had first made the discovery. "And I might have had the rug for twenty dollars," he remarked.

The rug was afterward sold for twenty-two hundred dollars, and the original owner, with his first good fortune laid aside in the bank, was engaged by the same firm who bought his carpet, so the story goes, as a rug-mender and repairer, for he was an expert in Oriental rug weaving. Such exceptions do not happen every day, but it goes to show the instant demand for genuine carpet at no matter what price.

Even though the hardwood floor is becoming more popular every day, and the rug covering is looked upon as most sanitary and economical, it is not everyone who can pay thousands of dollars each for Orientals. There are rugs for smaller prices, yet a genuinely antique cannot be secured at much less than one hundred dollars.

The study of the Oriental rug is in itself most fascinating. After a while, woof, weave, pile and dye, become a new language. One grows to know the Turkish from the Persian, and the Indian from the Chinese at a glance, while age can almost always be ascertained. The beauty of the real antique is that the older and more worn it is, the more beautiful and silky it becomes.

To some the collecting of Oriental rugs has become a mania, but when the collection is limited to the real article, it is an expensive hobby. In the case of the modern Oriental rug, beautiful patterns may be had for moderate prices, but care

should be taken to ascertain whether or not they are dyed with analin or vegetable dyes. The former will run when wet, but I have seen rugs of antique weave and dyes which have gone through fires, soaked throughout and buried in soot, which washed clean in fresh water and not one color spread.

In Persia, the Shah has formed rigid laws enforcing the exclusion of analin dyes. When the latter are used it is for purely commercial reasons, for commerce has endeavored to crowd out the old art of individual dye-making to meet the ever-increasing demand for Oriental rugs from foreign countries. Smyrna has the same laws. The other countries which persist in supplying the demand quickly and who use analins are Turkey, Russia, Caucasia and India. In many cases these modern colors fairly "shriek" at you, they are so crude, harsh and garish. Even time will not tone them down.

"Don't sell me any of those faded old rugs," said a noveau riche lady to a dealer the other day. "I want something bright and cheerful with figures in that I can recognize."

The result was that she bought some modern analins from Caucasia, of vivid blues, reds and greens, just because, to her mind, they were "pretty." An expert can tell a poor dye at once, and many people have been imposed upon with modern weaves and colors. These are sold for real antiques. There used to be a time when Oriental rugs were mainly in demand in large cities, principally on the sea coasts, but the love and practicability of the rug industry has gradually crept midland, until now some very fine specimens can be found in inland cities. Nevertheless, not all of those who have taken up the "fad" have educated themselves as to the requirements of what a rug should be, and buy what is placed before them, and because they are called "Turkish rugs." And they are undoubtedly Turkish or Persian Rugs, but are imitations of the antiques. In many cases the valuable antique rug is excluded entirely because of the high prices asked. It takes considerable time to reconcile oneself to paying two hundred dollars for a rug, when a fine carpet "to cover the whole floor" can be obtained for less. But the genuine hand-made rug will outwear six, ten, even twelve carpets, and grows more beautiful and glossy every year of its wear. In some of the countries where modern rugs are woven, they are pounded and put through manglers to give them sheen and the look of age.

A word on vegetable dyes—the antique art of coloring. It is considered a high honor to be a member of a tribe or family who is able to successfully dye wools. Some of the colorings are still a secret formulae and are handed down from father to son. The people even spin their own wool from native sheep or camels, and then seek their colors from sources about them. Dried bodies of certain insects found in Egypt are still used for certain shades, while extracts from roots, barks, flowers, fruit and seeds afford other permanent colors. The rich royal blues are from indigo, the deep reds from madder, cultivated in Asia Minor for the purpose; a fungus gives a green-yellow hue, while henna affords the orange red. Then by combinations of certain dyes other colors are secured, such as red and blue, which make purple; yellow and blue, making green, and so on. Sometimes a certain shade has been produced by a family for generations, and if they die the secret dies with them.

Some of the rugs purchased for $100 to $500 have each taken a family as much as ten years and longer to weave. This is the explanation, when we see where a coloring of a rug has changed slightly from that with which it was begun, or

where a design joins there is an irregular jumping-off place, as it were. Rest assured that some member of a family or tribe has begun where another has left off, and the new dyer has not used quite the same constituents for coloring as the one before him. At other times when these nomad tribes are on the move, only enough wool is dyed to last a week or so, and the next dying differs a little in consequence. It is usually found that this difference in shading gives a wondrously lustrous blending to the rug and really increases its value. This is a reason, too, why one sees a beautiful coloring or combination of hues in the antique which cannot be imitated when rugs are rapidly made.

Many a costly rug now reposing in some stately drawing-room or hung upon the walls as a priceless relic, has perhaps been carried for years over the deserts and mountains, at last to be bartered for by an enterprising merchant for a trifle, and then exported and sold for a fabulous price.

The expense of any Oriental rug lies in the fact that it is made from start to finish solely by hand. The usual method of weaving is to set up two poles of the desired width of the rug, on which the loop is set up, or foundation laid. Then small bobbins of wool, dyed the desired shades for the pattern, are passed over and under the warp threads, but the wool is always cut with the two ends projecting toward the weaver. When one row is finished it is set to place by hammering with a small tooth-like instrument similar in shape to a comb. By means of a treadle, a string of hemp or cotton is introduced between the rows to give body, then the pile weaving is continued. In almost every instance the pattern is carried in the head of the weaver, and the only implements for work are the rude loom, metal comb and a pair of scissors to trim the pile at a proper length. The skill lies in being able to stretch the warp so that the figures and designs are symmetrical. The reason that it takes so long to weave a single rug is because of the knot-tying of the pile. The two principal methods are the Ghiordes or Turkish knot and the Senna or Persian knot. The latter knots are made close together.

Some of the finest Persian rugs have 940 knots to the square inch, while the coarser Turkish rugs run at about forty knots to the square inch. It is said that should a Persian work eight hours a day steadily, he could weave a rug six by eight feet, in not less than four year's time! And then the newly educated to Oriental rugs wonder why they cost so much! But should this same weaver work under a modern Oriental master, his services would bring him about fifteen cents a day. It is not a wonder then that the poor Turk of Castle Garden collapsed at the thought of thirteen hundred dollars. In the Orient such a sum of money is sufficient for an entire family for a lifetime.

TURKISH RUGS.

The rugs most commonly imported are the Turkish, and this is probably the reason why rugs of this class are spoken of generally as "Turkish," rather than "Oriental." Turkish rugs are often spoken of as "Anatolian."

Such rugs as the Koulahs, Ghiordiums, Ladic, Yuruk, Bergamo, Koniah, etc., are all of native Turkish make, and each rug is called after the city or locality in which it is made. While analin dyes are much used in the modern Turkish rugs, the antiques are particularly beautiful and genuine, and some of the more rare, exceedingly high priced.

The old Koulah rugs come from a territory famous for beautiful rugs. Rich yellows, blues, browns and reds are inter-

woven so as to give the softest sheen and blending. There is generally a plain centre of deep blue, or deep red, with a centre figure of some kind, and in place of a wide border, there are narrow strips or ribbon borders in alternating and contrasting colors, giving a wonderful fineness in appearance. Some of the yellow and brown combinations are exceptionally unique. The warp and woof of these rugs are generally cotton.

The Ghiordium rug is woven much the same as the foregoing. Excellent prayer rugs abound in this make. Some have been used to kneel upon at devotion for a hundred years or more. In the prayer rug, the centre is of plain color, in green, yellow, blue, red or ivory, with the usual "prayer-point," or the temple design with supporting pillars. The old forms which date back to Saracenic eras are mostly conventional in design, but some of the latter, although antiques, have a hanging lamp or floral design, such as conventional rosettes, etc. One tone always predominates, and this is the centre tone. There are usually three borders to this rug, but sometimes as high as six, a wide one alternating with a narrower one. Here also the warp and woof is usually cotton. Sometimes the warp is of silk or wool and the woof of linen. The pile is of finest wool, cut very short, and with wear, the rug often resembles silk. The rugs woven at Bergamo are very scarce in the antiques, and valued because of their singularly beautiful coloring. The Bergamos usually have the medallion design, with a groundwork covered with intricate geometrical patterns. The borders are wide and single, and have flat relief floral designs or again the geometrical designs. The most of these antiques come in rich dark colorings, indigo blue, ivory, deep red or green, leading. These rugs are also more loosely woven than the two former makes, and are different in shape, being more square, while the pile is a little longer. The sides are beautifully selveged and the warp and woof, usually of colored wool, are woven into a web border at the ends.

The really antique Ladic is very rare. Their makers used to be hut dwellers, or small farmers, and spent their spare moments in the rug industry, weaving all their own carpets and mats. Ladics come in large prayer patterns or small mats, two by three feet being about the largest and were used for pillow coverings. The colorings of these rugs were blended in most artistic fashion and the designs were of usual Turkish pattern, but small in design. The secret of the dyes in some shades has died with their inventors, and cannot be imitated to-day, hence they are very valuable rugs. The modern Ladics are of coarser weave but of good material. There is a great demand for the Ladic and Bergamo rug of modern weave, while the antique is sought by the connoisseur.

The wandering Yuruk tribes made beautiful carpets. The present tribes, the same as the old, live in the Taurus mountains and have their chiefs. Their rugs are bold in colorings and designs, of unusual blending and have a long fluffy pile, much the same as the Milas rug. If one wishes something barbaric and rough, yet of splendid luster and excellent material, take the Yuruk. The ends are finished by a web or with braided fringe, with the sides selveged or over-cast. Even in the modern make one is almost sure to get the genuine article as the Yuruk tribes are still far removed from civilization or its imitations.

The Angora or Kaisarieh rugs have a closely woven pile of crude or barbaric coloring, in geometrical figures, and have a warp and woof of wool, and ends finished with a web and fringe. Some of them are startling, but quite beautiful and wear for ages.

The Turkish Khilm is a popular rug. These are of light weight, and are made in small sizes, or in long strips and sewn together as in the common "Bagdad." They are used mostly as wall hangings.

The Bokhara rug of modern make is a popular importation, but the antique Bokhara is very, very rare indeed.

THE ANTIQUE PERSIAN RUG.

The study of the antique Persian is an art as difficult to master as a new language. Of varieties there are the Khorasan, Herat, Meshed, Thiraz, Kirman, Kermanshah, Royal Senna, Tabriz, Saraband, Feraghan, Kashan and other so-called "Arabic rugs."

The old Persian Khorasan is a joy forever. There is a rich dark background or field, with elaborate strewing of flowers conventionally arranged. Sometimes the patterns are large and showy, others small and dainty, yet the field coloring always stands out boldly, but wondrously silky and soft. In these, one finds the medallion again, the palm pattern, and sometimes quaint birds, animals and flowers. These rugs demand attention at first sight and are rare acquisitions. The warp is of cotton, the woof of cotton or wool, and a distinguishing quality is that the pile is not always evenly clipped.

The Meshed rug is much like the Khorasan, but closer woven. The colorings are lighter, pale pinks, yellows, browns and blues being used. The wool is of the best quality and endures for ages. The shape is oblong.

The Herat rug has a ground of melting blue, deep red, or royal purplish, with lighter shades in the figures. They are closely woven of fine wool, while silk is sometimes used in the warp, though not always. Their designs are prominent and some rugs run in size up to ten by twenty feet. They make royal coverings for libraries, living rooms and vast halls.

It is not everyone who can own a Royal Shiraz. These are among the most difficult rugs to distinguish, for the designs are legion. One finds medallions, shawl stripes, flowers and birds, etc., but the style with the three diamond design in the centre and the tree of life in each corner and the three surrounding borders, is probably the most rare and distinguished of the variety. The warp and woof is always of wool, and they are probably the most loosely woven of all the rugs. Sometimes too soft for floor carpets of constant wear, they are excellent for wall and couch coverings. Five by eight feet is about the largest size.

The Kirmanshah, with its wonderful medallion centre and rich bordering, is indeed a work of art. Its designs carry out the most intricate patterns. Soft greys, gold, green, pink, blue, brown and ivory, are woven into the rug in spirals, vines, flowers and arabesques, until it is difficult to grasp the idea. The ends have a narrow fringe and the sides are overcast. Although found in small sizes, some rugs reach the dimensions of large carpets.

The colorings of the Senna rugs are always subdued, and most always take the effect of the all-over pattern, as for instance, there will be a field of ivory with a flat leaf design or arabesque repeated at intervals over the entire surface. The warp and woof is generally of silk or linen and the pile closely clipped. The Senna rug is nearly square, and not very large. No collector should be without a Senna. For genuine oddities, at the same time a masterpiece, nothing can excel the Royal Senna in the antique. Some of the modern rugs are also excellent.

The Feraghan and Saraband rugs are often used as companion pieces. The former has a woof and warp of cotton and a pile of excellent wool, shortly clipped in the antique. The field is usually dark,

in blue or brown, sometimes red, while black has been found. The rug is oblong with a border often resembling an old cashmere shawl, and a square centre overstrewn with flowers or geometrical designs. In the modern or cheaper Feraghan, the pile is longer and not so closely woven. It is one of the best of modern varieties.

The Saraband is also oblong, with warp and woof of cotton and closely cut wool pile. Centres are oblong with many borderings and the patterns are mostly small. Light and dark colors are beautifully blended, as old rose, dark blue, brown, yellow, etc. Many carpet sizes are found, and a modern weave comes in sizes of the hall-runner.

CAUCASIAN RUGS.

One frequently hears of the Daghestan rug. It has been one of the most popular importations. Great harmony and blending are found in these, again often startling contrasts, while the geometrical figures make them still more pronounced, but withal, they are handsome rugs. The ground is a showy monotone with figures in the triangle, pointed star, diamond and plain-line effects. The warp and woof is of wool. The pile is of wool and always silky. There is a knotted fringe. The Daghestan rug is one of the varieties of brilliant rugs which "speaks right out."

The more beautiful patterns of the Tzitzi rugs resemble mosaics. Colorings are often dark and always rich and the warp and woof is of wool. The pile is of short, fine wool and rather loosely woven. Diamond-shaped figures, bars inlaid with geometrical designs, palm patterns, six-pointed stars and grotesque flowers are found in the patterns. The makers dwell in tribes in the northern part of Daghestan.

Search for a good Kasak rug. They are singularly striking and beautiful and very original in design, most always square in shape. Their makers are also tribesmen. The rugs are easily distinguished by their loose pile, firm texture and bold colorings. The designs which are usually geometrical, often resemble the quarterings of coats-of-arms. Whites, deep blue, reds, greens, greys and yellows often find service in one rug. The centre square is large and bold with a narrower, straightly-lined bordering. The antiques are rare and sometimes priceless. Where a bright glowing spot is desired, place a Kasak.

The Shirvan rugs are usually thin-textured, with striking designs, often in prayer-patterns, again, in their own peculiar geometrical designs. The warp is of wool, the woof of wool or cotton and the pile very fine and shortly clipped.

Other Caucasian rugs are the Karabagh, Cashmere, Guenja, Derbend, Malgaran, and Cabistan, all named after their localities and expressing an individuality in weave and design.

The Persian Kurdistan is of great beauty; of fine, small design on a rich, dark field of blue, red or brown, with scatterings of flowers or intricate conventional designs. There is poetic harmony throughout in blending, and the rugs are closely and finely woven, indeed as beautiful as are to be found in the whole category of Orientals. The warp and woof is of wool and the pile of wool or very silky camel's hair, or angora goat. Large carpets come in this weave and are in consequence very valuable. The modern makes are excellent.

What poetry there is in the antique Mossoul! These rugs are nearly always long, and seldom perfectly straight, but what sheen, blending and subdued coloring! In their very patterns, often abruptly left off and again joined on, one can see where the tribes have picked up and moved on, and settled down again in their

nomadic wanderings. Camel's or goat's hair, often both combined, afford the thick pile; the warp and woof is either wool or cotton. The edges are over-cast and the ends selveged. Harmony in colorings lies in the blending of yellows, greens, browns and pale blues with extraordinary sheen and silkiness. One finds these rugs in runners, and sizes up to six by eight feet.

INDIA RUGS.

A very good rug of modern make can be secured from India. There is still a native pride taken in making vegetable dyes. In dealing with a reliable merchant it is not difficult to get the genuine East Indian rug or carpet. Nothing could be more handsome than the rich, dark, softly blended colors of these rugs. Dark reds, mahogany and indigo blue nearly always predominate. Designs vary. In some parts of India, floral patterns are used altogether, while in others, geometricals flourish. Whatever they are, the designs are bold and handsome rather than delicate and dainty. One can always distinguish the East Indian rug because the designs are nearly always outlined in black.

The Indian rugs are the Tanjore, Benares, Lahor, Multan, Hyderabad, Allahabad and Masulipatam, all named after the cities or localities in which they are made. Immense carpets are woven in India, the favorite design being a large medallion in the centre with gorgeous effects added thereto. The Tanjore rugs in the antique were made for the native princes and are exceptionally magnificent. Many beautiful silk rugs are made in India, as well as in Persia and Turkey.

In making the silk rugs, no expense has ever been spared. Some found to-day are as beautiful as the paintings of the old masters. They are very valuable. Mosques have been robbed to get them, and even palaces razed. The modern Persian silk rug, however, is considered finer than those of Turkey, Anatolia or India. Patterns in these are much the same as in the wool piled rugs. The really antique Indian and Chinese silk rugs are said to be extinct.

CHINESE RUGS.

The rug industry in China is creeping up considerably of late years. It is hard to get hold of a very old one, though some masterpieces are in the palace of the Empress. The rugs are made now in Peking, Ning-shai, Tibet, Mongolia, Tientsin and Samarkand. The patterns are peculiar to Chinese ideas of beauty, and one sees some magnificent specimens of modern make. The Samarkand, Peking and Tientsin are worth seeking. One must be careful of the analin dyes here too, for the demand and the commercial spirit cause the old dyes, when it is possible, to be abandoned. In design, the dragon, birds, flowers, fretwork, medallions, discs, trees, scrolls, etc., are used, and sometimes the designs resemble the ancient Persian, though not often. In color, dusty browns, blues, reds, fawns, greys, a good deal of black, and yellow are used. Exquisite white rugs with delicate tracery in faint tones are made today in imitation of the old. The warp of the beautiful Samarkand rugs is of cotton or silk, and the woof of cotton or wool. The sides are selveged and the ends finished with web and fringe. These have a heavy knap, resembling silk, and the patterns express the true chinese sentiment and spirit.

HOW TO BUY YOUR ORIENTALS.

Always go to a reputable house and if you do not know the rugs by name or weave, see that there is someone there who knows his business. All large rug houses have their especial "rug man." Decide upon your dimensions before attempting to purchase. Never cut a rug.

I saw a thousand dollar Persian rug cut once to fit a mantelpiece, not cut by the dealer who sold it, but by its owner afterward—a sacrilege of the worst order. If you should pick up a fine rug with an old, dirty, ragged fringe, do not buy the manufactured fringe and sew it on, which has been done, foolish as it is, but send your rug to a place where they repair them. An Oriental will weave the web anew.

Rich mahogany furniture always looks best with a rug setting. Never make the mistake of piling a room laid with rich, dark rugs, full of gilt furniture. If you must have it, select the soft pale tints in rugs to go with it. The Meshed rug serves well here. Beautiful brown-tinted rugs are found in the Koulah, Mossoul, Bokhara prayer-rugs and the East Indian. If you wish a handsome rug with a long pile, try the Milas, Yuruk, Kaisareieh (except rugs of the prayer design) and some of the Chinese weaves. Glowing, bold colorings are found in the Yuruk, Khiva and Herat rugs, also in other weaves.

MODERN RUGS.

Where the rug buying must fit a modest purse, do not disdain a modern weave. Beginning at ten dollars one can get a fairly respectable rug. Fifty dollars will purchase a beauty, and if judiciously selected, it sometimes belies the antique. Good moderns can be found in the Senna, Feraghan, Saruk, the Herez (some are almost as good as antiques), Shiraz, Daghestan, Cabistan (desirable and modest-priced), Kasak, Shirvan, Turkish prayer rugs, the Bergamo (most desirable of Turkish make) Yuruk, the Ghiordes and Koulah, the Kivah and many of the modern India rugs.

An excellent place to pick up rare bargains sometimes, if one understands the Oriental, is the auction room. Become familiar with the woof, warp and pile of the different makes, and with a study of designs, it is not so difficult after all "to know Oriental rugs." Any antique may be looked upon as a priceless possession, and if one feels it to be too valuable for a floor covering, hang it upon the wall or over balustrades. A soft silk rug makes a beautiful piano covering. The heavy, firm Oriental rug will wear forever and increase in value each year, so when buying, buy the best.

World Views

Another Survey.

The social survey, by which information regarding the living conditions of a city is obtained for the use of charitable workers, just as a land survey establishes the boundaries of counties, townships and minor subdivisions, is explained by John Daniels of Buffalo, N.Y., director of the Buffalo Social Survey, as follows:

"In an inquiry into social conditions, the first question should be that of how to weld the different racial groups into a single community. A second closely related question should be how to bring about a better understanding and more sympathetic relation between the so-called lower classes and the so-called upper classes. Finally, the conditions which produce poverty, congestion, disease, immorality and crime should be investigated and after that, the measures which need to be taken along the lines of sanitation, education and religious endeavor to bring about improvement. With respect to those city conditions which might be termed political, the social survey should ascertain the facts relating to naturalization, the means of promoting alert and honest citizenship and would attack the problem of the most appropriate and most effective plan of city organization.

"Finally, the portion of the survey devoted to studying the city physically, should deal with the many problems of civic improvement and city planning. Since the days of the ancients, the importance of measuring and defining land has been understood and because land is visible, physical and stationary, the geometry on which land measurements has been based, has for centuries been an exact science; but only in the last century has the importance of measuring and defining social forces begun to be generally understood, and because social forces are invisible, psychical and ever in motion, sociometry as a science of the measurement of these forces might well be designated, is still far from exact."

* * *

Work and Play.

Lee F. Hammer, associate director of the department of child hygiene of the Russel Sage Foundation, said at a recent meeting of the United States National Conferences of Charities and Corrections:

"There is a real connection between health and playgrounds. In the first place they afford an opportunity for the children to get fresh air and sunshine, which have proven so vital to health, and consequently to mental and moral development."

He illustrated the hardships that had to be overcome to convince parents that growing children need plenty of air and amusement, as well as book learning, by telling a story of a teacher in a country school.

"The teacher did not like to be cooped up in a schoolroom on pleasant days and decided that probably the children didn't either," he related. "So he took the pupils into the fields, up on the hillside and down to the brook. During these trips he taught them history, geography, geology and zoology and by competition and problems he taught them the 'three r's' as well. The community was not accustomed to this plan of school teaching and parents joined with directors in saying

that this foolishness must stop. But he persuaded the county superintendent to examine his pupils and he came out with colors flying."

* * *

Inspect Laundries.

It is suggested that laundries be made liable to inspection by municipal officers, that there be stringent rules in regard to the cleanliness of bakeries, and that barber shops be required to have a recommendation from an examining board.

In New York, laundries are included under an ordinance for factories, which requires that they be inspected at certain periods.

In a great many cities and states there are restriction laws for bakeries. The employes must be cleanly and must be free from disease, the baking room must be clean and there must be no lavatory near it. In fifteen or twenty states he found that there were stringent laws in regard to barber shops.

In many places all servants are required to register. In Washington registration of washwomen is compulsory, and in Honolulu there are public wash houses built by the city, which must be used by all washwomen.

The movement for the registration of washwomen, which seems about to develop so broadly, was brought about, with other reforms, by a prominent physician finding that there had been smallpox for several weeks in the family of the negro woman doing his washing.

* * *

A Russian Hospital.

An influential commission has inspected the Obuchoff Hospital, St. Petersburg, one of the biggest municipal hospitals there, and has discovered a state of affairs which almost baffles description.

The worst conditions prevailed in the wards for inebriates. The men's ward was so overcrowded that some of the patients had to lie in the corridor. The women's ward was in the basement and the atmospheric conditions were stifling. There was no ventilation.

The hospital kitchen adjoined the mortuary chamber, and the larder was in the bathroom. The clothes and soiled linen of the poorer classes of the poulation lay all over the floor, and the entire place was verminous.

About 500 inmates were lodged in wooden sheds hastily put together—the councillors described them as mere stables; and many tuberculosis patients were being treated in these unsalubrious jerry-built barracks.

The sights they witnessed during their four hours' visit so affected the municipal councillors that they did not complete the inspection.

* * *

Banging Owen's Bill.

A number of years ago Herbert Spencer wrote as follows in " Social Statics":

"Moved as are the projectors of a railway, who, while secretly hoping for salaries, persuade themselves and others that the proposed railway will be beneficial to the public—moved as are all men under such circumstances, by nine parts of self-interest, gilt over with one part of philanthropy—surgeons and physicians are vigorously striving to erect a medical establishment akin to our religious one. Little do the public at large know how actively professional publications are agitating for state appointed overseers of the public health.

"* * * There is an unmistakable wish to establish an organized tax-supported class, charged with the health of men's bodies as the clergy are charged with the health of their souls. And, whoever has watched how institutions grow—how by little and little a very innocent-looking infancy unfolds into a formidable matur-

ity, with vested interests, political influence, and a strong instinct of self-preservation, will see that the germs here peeping forth are quite capable under favorable circumstances, of developing into such an organization."

Colonel Frederick A. Bangs of Chicago says that Spencer thus forecast the Owen Bill. He goes on:

"A small minority of the American Medical Association is working to make that body a trust, beside which the Standard Oil Company will be a mere unsophisticated tyro."

Col. Bangs is former president of the Hamilton Club and representative of the National League for American Medical Freedom, which is opposing the proposed creation of a Federal Department of Health.

A majority of the members of the American Medical Association, which is back of the bill in question, does not approve the course of the minority in control of the Medical Journal, the Association's official organ, according to Col. Bangs. The Medical Journal, he says is advocating suppression of the press and is seeking to get control of the publication of all medical works.

And the New York Herald in summing up this bill—known as the Owen Bill, having been introduced into the United States Senate by Mr. Owen of Oklahoma —concludes that "Standard Oil is a purling infant in the way of a trust compared with the gigantic combine for which these doctors are working. It would create a monopoly more odious than was ever conceived, one which would touch and control the life of the people at a thousand points of contact, and—the most audacious feature of all—would impose the cost of its own support upon the country to the tune of hundreds of millions of dollars a year.

"Some notion of what this trust would be at the start—heaven only knows what it might not be made to include when once firmly established as a part of the Federal Government!—may be gleaned from the statement made by one of its promoters as reported in the Journal of the American Medical Association. It would control hygiene, sanitation, food, education, immigration, public and private relief, labor conditions and a dozen other things besides research, laboratories and equipments.

"Nothing so needless, nothing so audacious in the way of a trust was ever before conceived, much less proposed to be incorporated into the government."

Such are some of the arguments brought to bear in an extraordinary advertising campaign which has been undertaken against a bill organizing and unifying the health agencies of the United States national government. That this campaign is being financed solely by well-meaning free lances, who fear the approach of a "medical trust," is somewhat difficult to believe; it seems more likely that the funds are coming from those who fear that their pockets would be touched by the decisions of such a bureau and the proprietary medicine manufacturers fit this description well enough to satisfy most people.

But one need not adopt even this sensible conclusion, with its explanation of motive, to disapprove of this campaign. For it is, by its own claims, a plea for sectarianism in medicine, and sectarianism in medicine is now a practical contradiction in ideas. The scientific method which "regular" medicine strives to adopt is altogether incompatible with the a priori dogmas which the various medical sects lay down. Why be governed by a theory evolved at a time when the known facts were few? Such submission to a preconceived theory involves the exclusion of everything contrary and means a

partial, if not a pseudo, science. The impatience of the whole medical fraternity with the old debates over homeopathy, allopathy, eclecticism and what not, is really more indicative of progress than any attitudinizing in behalf of our right to use mediaeval theories in medicine if we so desire.

Thus, Professor Irving Fisher, of Yale, finds, in a letter to the Chicago Evening Post, that a National Bureau of Health would undoubtedly adopt the scientific attitude on questions which arose. If it regarded the various medical sects as survivals of little practical value to the modern world, it would but reflect the overwhelming preponderance of public opinion. And if it undertook to regulate these "schools" by insisting that they maintain a high educational standard in their institutions, it would not be going any further than the public, with all its love of quackery, is willing to have it go.

* * *

The Teacher as Medical Inspector.

"A country's greatest asset is its men," is the statement of R. C. Hall of the United States Committee of School Patrons. He writes: "This is more true than the conservation of this asset by the national and state governments would indicate. The natural resources of this country are being guarded and preserved by the Department of Agriculture. Besides this conservation of natural resources, such as water, forest and mineral, it instructs the farmers how to prevent and cure disease in crops, orchards and animals, and how to increase the production of the soil. But, knowing the many ills that human flesh is heir to, and their cure and prevention, yet indifferent to its great responsibility, the conservation of human life.

"If the government, through its Agricultural Department, conserves plant and animal life, by bulletin, and actual demonstration, and adds millions of dollars to the yearly output of the farm, why could not some department, the Department of Education for instance, instruct all the people about non-contagious defects, and the general principles of hygiene and sanitation?

"While we await the awakening of the government, what is being done, and what can be done, to prevent this great waste of life?

"Many cities have elaborate systems of medical inspection, followed up by the treatment of children at their homes, nurses, etc. This is very fine and much to be desired. Too much can not be done but must we despair because we cannot do big things, and have no money to employ medical inspectors? There is one way by which every school in this country can have a medical inspection, and the children instructed in the laws of preventable diseases, sanitation and health. This must come through the teacher. It requires no medical expert to detect the most common symptoms of contagious diseases, to inspect for non-contagious defects of eye, ear, nose and throat, to teach some simple rules for prevention of preventable diseases, and to acquaint the pupils with the most general laws of satisfaction.

"As an equipment for this work, I would recommend a little leaflet, published by the Massachusetts Board of Health; the Sanitary Primer, published by the World Book Company; Gulick Readers; Sneller's Eye Chart; a few lessons in detecting enlarged tonsils and adenoids.

"If this conservation of life is a national and state obligation, it is also a private obligation, which can be best discharged through the co-operation of parents and teachers. The teachers must do medical inspection. I have an abounding confidence in them. They will meet this new

demand, and perform well their part in this greatest of all undertakings, the conservation of human efficiency and life."

* * *

Mexican Meat Markets.

In money's worth of service rendered, in care for the health, general welfare of the citizens, and in the extent of waste, it has long been known that Canadian municipal government is inferior to European, and now the following from the report of Consul Keena of Chihuahua cites regulations of meat markets prescribed by Mexican health authorities which might well serve as an example for our towns and cities:

"During 1909 the city completed and opened twenty sanitary meat shops, so located as to separate them from surrounding buildings by a distance great enough to insure good air and light on all sides. The shops are built of brick, one storey high, and average eighteen feet long by twelve feet deep inside. The floors are made of 8-inch square colored tile embedded in cement. The equipment of each shop consists of a marble topped counter, set of racks and hooks for hanging meat, white enamelled washstand, and an electric fan. All windows are placed high in the wall and are barred and screened. The approximate cost per shop was $1,000 and the average monthly rental is $25. Several private individuals convinced of the advantage of these shops have built others identical in type and equipment, eight of which have already been opened to the public. The slaughter houses are subject to rigid inspection by municipal officers. Thirteen special wagons, owned by the city, are used to supply all meat shops.

* * *

Elizabeth Blackwell.

Dr. Elizabeth Blackwell, widely known in the practice of medicine, both in England, where she was born, and in the United States, where she practised several years, died at her home in Hastings on June 1st. She was born at Bristol, February 3, 1821.

Her parents went to America in 1832. In early life she taught in Kentucky and North and South Carolina, later studying medicine at Geneva University and in Paris and London. In 1851 she began to practice in New York City, where she founded a hospital and medical school for women. Returning to her native land, she was placed on the English register in 1859 and subsequently practised in London and Hastings. She founded the National Health Society of London, and assisted in forming the London School of Medicine for Women.

* * *

A Municipal Slaughter House.

Dr. Landis, health officer of Cincinnati, Ohio, in a recent report says:

"The experiment of operating a municipal slaughter house, undertaken by several cities in this country, will be watched with interest by Boards of Health and by the beef industry.

"Cincinnati has 18 slaughter houses not under government inspection. A force of eight meat inspectors, under the control of the local Board of Health, passes upon the animals slaughtered, and, in addition, looks after the retail butcher shops, markets, etc. A recent report shows 518 cattle, 657 calves, 236 sheep and 156 hogs inspected by this force. The greatest obstacle to efficient work is the large area to be covered, much time being lost in going from one plant to another. These small slaughter houses are frequently a nuisance to the surrounding neighborhood, and improvements are hard to obtain.

"The concentration of all these plants under one roof would seem to offer a

solution to the problem that would benefit all parties concerned. Much less equipment and a smaller number of employes would cut the initial cost of placing the meat on the market to a minimum and so concentrate the business that inspection before and after slaughter would be comparatively easy. A report received from Paris, Texas, where this method was installed December 1, 1909, contains some interesting statements. They charge for inspection, slaughtering, five days in cold storage and delivery to the retail meat store $1.25 for each beef carcase and 75 cents for each hog, calf, sheep, or goat carcass. During the month of February the plant's income was $735 and expenses $550.

"A reduction plant takes care of all offal without nuisance to the neighborhood.

"The initial cost of such a plant would not be very large.

"Every city has buildings that have been abandoned for other purposes that could be easily made over into slaughter houses."

* * *

That Fly.

A scientist has discovered that the descendants of a single fly during the season, should they live, would amount to the enormous sum of 8,154,000,000.

These flies cause sickness and death.

The summer months are here, and unless mothers and fathers exercise great precaution in exterminating the house-fly many infants will be claimed by death—more homes will be shadowed by gloom.

It is no longer idle talk that the germ-carrying house-fly is responsible for a great portion of infant sickness, and all over the country during the summer months the various health departments are doing all in their power to awaken the citizenship to a full realization that the house-fly is a germ-carrier, and sickness and death always follow in his wake.

There is no longer any doubt that the house-fly is responsible for much of our sickness. It has been proven time and again that the fly carries the bacilli of typhoid, tuberculosis, dysentery and intestinal diseases.

The fly is one of the most loathsome enemies of mankind. The fly is insidious; he lurks in every corner; he plants the disease germs on your bread, he buries them in your butter, he drowns them in your baby's milk bottle. There is no escape if he once enters your home.

The fly does not convey the bacteria into the human system by biting as the mosquito does, but carries the disease germs around with him on his body and clinging to the hairs of his feet. The fly season is now at hand. While it may be impossible to exterminate the fly, yet this danger may be lessened by the proper unity of action on the part of the citizenship.

Here are some rules dealing with the fly nuisance issued by the Merchants' Association of New York City:

"Keep the flies away from the sick, especially those ill with contagious diseases. Kill every fly that strays into the sick room. His body is covered with disease germs.

"Do not allow decaying material of any sort to accumulate on or near your premises.

"All refuse which tends in any way to fermentation, such as bedding straw, paper, waste and vegetable matter should be disposed of or covered with lime or kerosene oil.

"Screen all food whether in the house or exposed for sale.

"Keep all receptacles for garbage carefully covered and the cans cleaned or sprinkled with oil, lime or other preparations, such as are sold by a number of reliable manufacturers."

Editorial

The Victoria, B.C., Health Office.

It is reported that Victoria is now endeavoring to attach the full labor time of its medical health officer to its service. This is well. But if "endeavoring" is the word in regard to securing the exclusive service of Dr. G. A. B. Hall, who now assumes the position of Victoria City Medical Health Officer, while in private practice, the hitch must be in comparatively inadequate remuneration.

A story is told of a woman living in Victoria who never calls a physician if she can help it, but who is forever trying to get free advice by different means. One day, after her return from the mainland, where she had caught a slight cold, she waylaid a gruff old medico and after a little preliminary conversation she asked tentatively:

"By the way, doctor, what do you do when you have a cough?"

The gruff old medico looked straight in her eyes for a moment, and then answered without moving a muscle:

"I cough, madam."

This does not mean that the present health officer of Victoria is the prototype of such a gruff old medico in the advice which he gives to the city of Victoria. But it does point to the fact that Victoria, with other municipalities in this country, should equitably proportion remuneration to unimpeded official labor in order to justify the exclusive service of such a medical health officer as Dr. G. A. B. Hall.

* * *

Fear and Disease.

During a recent convention of dairymen, held in the city of Washington, one of the speakers, Charles W. Miller of Idaho, asserted that fear has a more potent influence in the spread of tuberculosis than any other cause against which precautions are now taken. He announced that in his own state the death rate for the past year from tuberculosis shows an increase of more than one hundred and twenty per cent. over the previous year, in spite of a strenuous teaching campaign of health authorities.

Mr. Miller said that lecturers were employed who traversed his state giving magic-lantern exhibitions depicting the horrors of the "great white plague" before farmers' institutes and gatherings of school children. And he believed that the effect of these exhibitions had been depressing in the extreme, so much so that persons predisposed to the disease had readily fallen victims.

The power of mental suggestion is generally recognized in the field of morals and most practising physicians can probably draw upon their experience to prove its effect on the physical organism. It is well known that medical students of highly sensitive nerves, while observing and studying symptoms during their college days, have themselves experienced many effects of the particular diseases under consideration. And the trouble with ordinary propagandists in nearly every field is that they do not recognize such susceptibility to disease suggestion but are apt consequently to exaggerate in their work, believing that public interest cannot be awakened without introducing the spectacular and sensational.

Mr. Miller is perhaps overstating his case; nevertheless it is true that

many conservative physicians, while fully realizing that individual and national efficiency is founded upon popular knowledge yet, deplore the effect of over-zealous advocates who assume the care of public health.

* * *

Inter Alia.

The rag industry among the Hebrews of the ghetto of our cities demands consideration from health officers. Filthy rags may often be found in living rooms or stored in attics, and much disease is spread from the collection of rags and storing in houses.

* * *

Berlin, Germany, is the cleanest and most smoke-free city in the world. The entire city is so clean and delightful that it shames our Canadian idea of cleanliness and sanitary regulations. In fact, every European city is far ahead of the smoke-ridden cities of this country.

* * *

Out of 5,850 children examined in Toronto by the recently appointed inspecting nurses only 1,864 had ever used a tooth brush. Teeth decay and innumerable disorders in children that have seriously militated against their success in life, is attributable in a large measure to the failure of sanitary precautions in connection with their teeth.

* * *

The Canadian organizer of the International Journeymen Barbers' Union reports there is a general demand throughout Canada that all barbers' shops should be licensed to ensure cleanliness.

* * *

The Rev. Dr. Cooley, originator of the Cleveland Farm Colony, speaking before the recent Conference of Charities and Corrections of Canada at Guelph, Ont., made a strong appeal for the better treatment at the hands of society of the man who had once fallen. The principle of branding convicts as jail birds was entirely the wrong idea, he declared, and was responsible more than anything else for the present condition of affairs in the United States, where the amount spent in detection and punishment of criminals exceeded the combined amounts spent in charity and education by $500,000,000. It was only just beginning to be realized that the gospel of the lowly Nazarene, when He said, "If thine enemy hunger and thirst give him bread that he may eat and water that he may drink," was the really true fundamental principle of society and not to be confined merely to the religious life of the church.

* * *

An experimental ozone plant will be established at St. Petersburg to purify the city's water supply, drawn from the River Neva.

* * *

The Chinese are a thrifty people. They have dug up so many bodies to secure the hair on the heads that the authorities have been obliged to pass severe penalties. Our women who wear imported hair will now have an opportunity to speculate on the possible length of time their hair has been buried.

* * *

At the recent Dental Hygiene Conference in the city of New York it was declared that 65 per cent. of the school children are "dental cripples," that the total number throughout the United States approximates 8,988,000; and that in 12,000 cases, other ills might be traced directly to defective teeth—or unhygienic mouths.

* * *

The public drinking cup has disappeared from every railway coach and depot in the State of Oklahoma, and hereafter travellers will have to provide themselves with drinking cups or go thirsty. A slo'

machine has been installed, in some instances, which upon the deposit of one cent will deliver a paper cup for use of the passenger. It is claimed that the public drinking cup has been the chief agency for dissemination of tuberculosis and other germ diseases. The fight upon the great white plague is growing more determined and, it is to be hoped, more effective.

* * *

Toronto's health authorities will commence next fall to take advantage of the recent legislation which gives them power to inspect the sources of the city's milk supply.

* * *

One hitherto unanswerable objection to some of the stricter rules suggested for dairymen in the production and handling of clean milk—for cleanliness is synonymous with purity in milk—is that the production of clean milk is an expensive operation and that the public, if it desires such milk, must pay for it. Certified milk furnished in Chicago to those willing to pay for the pledge that it conforms to certain recognized requirements as to age, conditions of cows and methods of handling, costs fifteen cents a quart. In New York it costs from 15 to 20 cents a quart, and there is a possibility that there will be an attempt to put the price still higher.

* * *

Dr. Winslow, who has served as chairman of the committee on milk of the Washington State Medical Association, has this to say anent the milk subject: "It may be positively affirmed that American physicians having most experience and knowledge of feeding babies are generally agreed that infants thrive best on clean, unheated (meaning unpasteurized) milk.

* * *

This situation lends added interest to an experiment about to be tried by New York philanthropists and experts, who believe that good milk can be supplied at 10 cents a quart for the raw product. A company has been originated with a capital of $25,000, and a plant purchased at Homer, Cortland County. The new company will assume all responsibility at this plant for the cooling, sterilizing, washing and shipping of the milk, in this way hoping to reduce the cost of production, the argument being that it will be cheaper to do this at the plant where large quantities of milk are handled than at individual farms. The cans sent to the farmers for the milk to be delivered at the central plant will be sterilized by the company, an innovation greeted with joy by farmer's wives, who are naturally pleased at being relieved from washing the cans.

* * *

Against all objections to pasteurized milk the one salient, undeniable fact stands out, viz., that properly pasteurized milk is a comparatively safe food, whereas unheated milk is not. All milk not certified or equivalent to certified milk should be pasteurized for use by infants or invalids. Even certified milk is often pasteurized when employed for babies and the sick. In the summer months this may be advisable, and in New York at the Strauss milk stations certified milk is pasteurized the year round.

* * *

We have heard much recently of the necessity of conserving the public health. The anti-tuberculosis campaign especially has brought forth much sound and wholesome advice as to right living and proper food, both as a preventative of this disease and as the only means of combatting it. We have had the doctrine of fresh air and sunlight drilled into us in a quieter way, also, we have acquired much valuable knowledge as to the care and

treatment of various diseases. There are many who believe, however, that the cure of disease has attracted more than its proportionate share of attention and that its prevention has been too far ignored.

* * *

In the death of Goldwin Smith, Canada and the world have lost a citizen prominent in the first rank of literati and philosophers; one whose prolific pen in the interests of the humble and the normal assisted to build our wider political and religious tolerance and, humanitarianism of to-day.

* * *

The masses must be taught how to preserve their health and strength and they must have help every waking moment. Men, women and children should not be overworked or underfed. Working places, working homes and schools should be as clean and wholesome and every way as sanitary as the richest home in the land. landlords who build hovels and unsanitary houses, big or little, should receive corrective attention.

* * *

We as a race must have physical soundness in order to survive. We are beginning to set as an ideal that of a sound body and a sound mind. We expect to get the maximum amount of service out of the race. We hope to improve it, so that those living in future may be stronger and more capable if possible than those living to-day, and to this end better physical and mental health are necessary. The man whose body is in perfect condition, whose organs are performing their functions properly, is necessarily able to do better work, physically or mentally than one whose health is impaired.

* * *

Consequently it is our duty to see that men and women are not worked beyond their strength, that their hours are such as to still leave them opportunity for healthful outdoor exercise, that they have proper food, that the conditions under which they work are of the best, and that the sanitary and other conditions of their homes are improved.

* * *

Public parks and outdoor amusements all tend in the right direction, to make health-giving recreation popular with the masses and consequently to help the physical condition of the nation and in this way yield rich returns. Anything that tends to thus help the physical well-being of the nation is to be encouraged, for the conservation of its public health is one of the biggest works it can undertake.

* * *

The city board of South Bend, Indiana, includes tuberculosis in the list of diseases wherein fumigation is regarded as necessary; one of the measures urged by the United States National Society for the Study and Prevention of Tuberculosis being that residences where deaths occur from the disease be fumigated, as a precaution against its spread.

* * *

Lawrence Veiller, secretary of the United States National Housing Association, reports that in his trip through the tenement district of St. Louis last month he found the foulest slums in point of filth he had ever seen in any city in America.

* * *

The decision of the organized labor bodies of Philadelphia to co-operate with the Society for the Prevention of Tuberculosis in its work opens up a new field for their activities. There is no deadlier foe to humanity at large than this disease; its baneful effects have done much to produce poverty and it has robbed thousands

of poor families of the fruits of their earnings. Organized labor can assist effectively in fighting the white plague by teaching the practice of those household and sanitary habits which go far to check the spread of the malady, and it is to be hoped that its efforts will not end in the adoption of resolutions and the publication of a few pamphlets.

* * *

Slums hurt a city and no city can exist as a decent city as long as it tries to conceal the filth contained in it. A combined move by the proper city departments can clean up such districts in a short time and get rid of the most repulsive features. The eradication of the disease-breeding shacks would take a little longer but is possible.

* * *

The elimination of midwives, or their education and supervision as in European countries, was recently recommended by Miss Carolyn Van Blarcom of New York in an address on the prevention of blindness. She urged "legislation, concerted action of doctors and laymen, and educational work of such a nature and extent that the public will appreciate the gravity of carelessness and that mothers might know that 'sore eyes' in newly born children are not natural, will not heal of themselves, and that infantile blindness is not a result of divine dispensation."

* * *

Dairymen should all be licensed and required to designate the number of their milk permit in plainly visible letters on their wagons. By this method a dairy or health inspector would be enabled to tell at sight whether the man is doing a legitimate business.

* * *

In some cities merchants are prohibited from sweeping the trash from their stores into the street after 7 o'clock a.m. This work is required to be done between the hours of 5 and 7 o'clock, the janitors of buildings being required to sweep the sidewalks at the same hour and deposit the rubbish in cans, located at the entrance of alleys, which are emptied and cleaned early in the day by the street cleaning forces.

* * *

Complaints have been registered by peddlers who receive their milk from railway lines in different parts of Canada that the cans are opened and the cream skimmed from the top. The dairyman is then responsible for the purity of his milk and sometimes prosecutions have resulted as a result of a lack in the per cent. of butter fat. The cream being dipped from the top of the can lowers the grade and makes it possible for stable filth to find its way into the contents.

* * *

The efficiency of the Canadian Army Field Hospital Service was demonstrated when an operation for appendicitis was successfully performed on Sgt. James Hagyard, of the 39th Regiment, Simcoe, by Lieut.-Col. Fenton and Major Marlowe, both of whom are on the medical staff of the Toronto General Hospital, during last months' encampment at Niagara. No contagious diseases occurred in camp save one of measles.

* * *

Much of our uncleanliness and the sickness which results is due to the inefficiency and negligence of inspectors and sanitary officers. But a greater part of it is due to the refusal of public sentiment to support sanitary laws. We shall never have much real sanitary effort until every man is made to feel that the person who tolerates unsanitary conditions about his premises commits an offense against the public at large. If a man fires a pistol recklessly down a street everybody who hears of it will feel indignant, whether

anyone is hurt or not. Yet there is not so much menace in such a performance as there is in the willingness of a man to allow his back yard to remain in an unsanitary condition.

* * *

The sedimentation tank method of disposing of sewage is almost an essential part of modern methods of sanitation in cities other than those located on large streams. As a part of modern conveniences in isolated residences, such as suburban and farm homes this method is also desirable.

* * *

An unusually important step toward safeguarding the water supply of Chicago against contamination from refuse dumped into the lake was taken at Washington recently, when the House of Representatives adopted a bill prohibiting the unloading of refuse of all kinds into Lake Michigan within eight miles of the shore line of Cook County unless the material is placed behind breakwaters.

* * *

"Will you become a crusader?" This query will stare the public in the face this month when cards bearing that inscription, with accompanying explanations of the dangers and consequences of expectorating in public places, are distributed by members of the Chicago Anti-Spitting League in an effort to enforce the anti-spitting ordinance of that city.

* * *

The question of having the police cooperate with the engineering, streets, repairs, light and sanitary departments in reporting defects in street paving, sidewalks, uncleanly alleys and premises, and excess of street lights in a block is considered a capital plan in some cities. The mayors of these cities say that the idea improves the service in such details and that it proves an economic measure as the cities are then able to dispense with the services of a number of inspectors.

* * *

Health Commissioner W. A. Evans of Chicago has sent to 13,000 milk producing farmers within a radius of 150 miles of Chicago a complete set of rules, which must be complied with before the milk produced on the farm is accepted in Chicago. The rules are printed on cloth and must be nailed to the door of the dairy farm and not removed. Regular inspections of the farm will be made. In the event that the rules are not observed and dairies are found violating the orders of Dr. Evans, steps will be taken to keep the milk out of Chicago.

* * *

New York City has been conspicuously successful in improving the quality of its milk through the co-operation of dairymen with a physicians' committee. By a system of certification the committee has guaranteed to the public that certain sanitary precautions in handling the milk supply have been taken by the dairymen who subject their plants to inspection. The man who takes great care to keep his milk clean and free from germs of any sort ought to be able to let his customers know what he is doing so that he can get a better price for his product than the dairyman who is grossly careless.

Library and Laboratory

March's Thesaurus. (T. J. Ford & Co., 303 Church St., Toronto, Canada.) This work which resembles an unabridged dictionary in size, because it contains the whole living language — no obsolete words — is both a term-finder, word-finder, and a dictionary, serving several purposes.

The English language is so rich that for every fact and feeling there is an exact word. Now, if you know the word you need you can find its meaning in a good dictionary, but if your memory does not supply it, you will not know where to look for it, in which event your dictionary becomes useless to you.

But March's Thesaurus will refer you promptly to the very best word to express any conceivable idea, and will give you every term relating to it, in a group, whether the term be a word, phrase or saying—a popular expression or a vivid quotation from the tongue or pen of genius.

* * *

Hot Weather Drinks. The thirsty season is here. With hot weather most of us take more liquid, take it in copious quantities, then wonder why indigestion follows.

There is less harm done by over-drinking in summer than by drinking the wrong things.

Water is healthful, provided it is germ free, and it is hard to drink too much of it at the proper temperature. This is not iced. Nothing more quickly induces dyspepsia than pouring ice water into the stomach in the reckless American style. If water is bottled and kept in a refrigerator it is better and quenches thirst more quickly than if iced.

Hot water is a better thirst quencher than cold. Nor is it as heating as people imagine. It is especially valuable if one is overheated, as it averts the risk of inflammation in the stomach.

Ice cream sodas are breeders of dyspepsia. A well-known stomach specialist advises to take ice cream and your soda water separately. It is the mixture that is harmful. Unless any soft drink is to work trouble, let moderation be your rule. Do not get the soda water habit. It will save money and digestion.

Abuse of tea and coffee is a frequent cause of dyspepsia. Tea taken with meals is apt to so dilute the gastric juices that power to digest solid food is impaired. The tannin which tea contains acts injuriously on the digestive process. The effects are especially bad when tea has been boiled, is very strong, or when it is creamed. Iced tea, the favorite summer luncheon beverage, acts unfavorably on the kidneys.

Coffee is less injurious than tea, contrary to general opinion. When taken too strong or in too great quantities it has an irritating effect on the mucous lining of the stomach. Wholesale condemnation of it is folly, but moderation is the rule.

* * *

Antidote for Snake Bite. Strychnine is probably the only positive antidote for a big injection of rattlesnake toxin—a bite or rather stroke such as a four-foot snake would inflict on a fleshy part of the body, as the calf or thigh. For such a bite, carrying as it does a half teaspoonful or more of venom deep into the flesh, all ordinary cures are unavailing. Hypodermically injected, however, in sufficient

quantities to surely kill the patient were he not suffering from the snake poison, strychnine is a certain counteractant. The greatest danger is said to be in administering too little strychnine.

* * *

Harmful Outings. The Chicago Health Bulletin says: "People are beginning their summer vacations. Some will be benefited by their outing, some will be harmed.

"A good many people who lead careful lives at home get reckless when they go away. They will drink any kind of water, will stand for dirty milk, will tolerate flies. It is vacation and 'anything goes.' A fair percentage of our typhoid is brought about in this way."

But the Bulletin's warning contains a saving clause. The Board of Health has made some inquiries and on application will advise as to safe outing places, at least in Michigan, and hopes to be able to do the same relative to Wisconsin within a few days. The Bulletin says:

"The Michigan State Board of Health has furnished us with a sanitary report on thirty-four resort towns. If you will write to the Health Department we will endeavor to advise with you as to the sanitary status of outing places in Michigan. We hope that we may obtain similar information for resorts in Wisconsin. Resorts which properly protect their patrons should be encouraged."

* * *

Turpentine for Moths. Turpentine applied freely to the places they are believed to infest is the best cure. Some good housekeepers we know steep brown paper in turpentine, and fasten it underneath all the furniture, whilst others put powdered bitter apples and pieces of camphor into the various corners of sofas, arm chairs, etc. Things to be packed away should be sprinkled with insecticide, bitter apple, pepper or camphor, tightly done up in brown paper, carefully pasted down, to leave no loophole for a wandering moth to creep in, and then rolled up in old sheets, etc. For furniture in ordinary use, the only chance lies in the constant application of turpentine and periodical examination.

* * *

Scientific Research. In connection with the annual grant voted by the British Parliament in aid of scientific investigations concerning the causes and processes of diseases, Mr. Burns, the president of the Local Government Board, has authorized the following special researches:

1. A continuation of an investigation into protracted and recurrent infection in enteric fever, by Dr. Theodore Thomson, Medical Inspector of the Board, in conjunction with Dr. Ledingham of the Lister Institute.

2. A continuation of an investigation into protracted and recurrent infection in diphtheria, by Dr. Thoedore Thomson and Dr. C. J. Thomas.

3. A continuation of an investigation into flies as carriers of infection, by Dr. Monckton Copeman, Medical Inspector of the Board, in conjunction with Dr. Graham Smith and Mr. Merriman of the University of Cambridge, Dr. Nicoll of the Lister Institute and Dr. Bernstein of the Bacteriological Laboratory, Westminster Hospital.

4. A continuation of an investigation on the injurious gases evolved during artificial illumination, by Dr. J. Wade, D.Sc., of Guy's Hospital.

5. A preliminary inquiry into the relationship of certain special types of bacteria to the diarrhoea of infants, by Dr. C. J. Lewis of Birmingham, Dr. Sheila M. Ross of Manchester, Dr. Thomas Orr of Shrewsbury, and Dr. R. A. O'Brien of the Lister Institute.

To Prevent Mosquitoes. Mosquitoes breed in water. They do not breed in salt water, but in fresh or brackish water. The eggs are laid on the water and after a period varying from eight to twelve days the mosquitoes are developed. The egg first develops into larvae, which may be seen rapidly moving in the water. These are commonly called "wiggle tails." These continue to grow and at the end of eight to twelve days develop into full grown mosquitoes.

To prevent breeding of mosquitoes in a given section it is best to have no standing water. But where it is not practicable water. But where it is not practicable to either fill or drain standing water, it may be made uninhabitable for mosquito larvae by pouring a small amount of kerosene oil on the surface of the water; about one pint is sufficient for a water space of thirty feet in diameter. Salt can be used in the water to prevent the breeding of mosquitoes. Mosquitoes do not breed in water containing fish, if the fish are able to reach the larvae on which they feed. However, the mosquitoes frequently breed in the shallow pools along the edge of the water where the fish cannot go.

* * *

The Causation of Sex. T. W. B. writes, in reference to the communication from "J. A. W." in the British Medical Journal of May 21st, page 1272: Bee cells of wax comb are constructed by the worker bees in three different sizes for each colony of bees, the largest for the queen; next in size come the drone cells for the male bees, and, most numerous, the smallest cells of the worker bee. There is but one queen retained in each colony, and, if she is strong and fertile after cohabiting with a drone, she will lay upwards of 3,000 eggs a day, one in each cell, indiscriminately in all available cells. These eggs, of course, do not differ in composition, and yet three different kinds of bees are produced from them. The queen is fed on special food (to make her strong and fit for her great task of laying some 5,000 eggs to make up a strong colony of bees) by the worker bees during her "grub stage," but I do not agree with the theory held by so many of my fellow beekeepers that the so-called bee-jelly feeding accounts for her sex. I am of opinion that according to the size and formation of the cells will the sex be, according to the moulds in which the ova are deposited; and so I take it to be in the female human body, that the moulds forming the corpora lutea are the moulds for fertile ova in the ovaries, and that these moulds may vary sufficiently from period to period as to vary the sex of the progeny of the same father and mother, and, in the case of twins, to produce, according to its each individual mould, both a male and a female from the same impregnation.

* * *

Anti-Typhoid Vaccine. Prof. Vincent has announced before the Academy of Medicine of Paris, France, the discovery of an effective anti-typhoid vaccine, which he prepared by steeping typhoid bacilli in a weak solution of water and sodium chloride (common salt), with an admixture of ether.

Professor Vincent made a number of experiments with animals, which, after being vaccinated, withstood subsequent inoculation with typhoid germs. He also vaccinated thirteen persons, an examination of whose blood after the operation showed that it possessed to a high degree properties destructive to the typhoid bacillus. Further experiments appeared to demonstrate the fact that the typhoid bacilli, when placed in contact with the serum of the blood taken from the person vaccinated, lost all vitality.

Open Mail

To the Editor of The Canadian Therapeutist and Sanitary Engineer.

Insanitary Schools.

Dear Sir:

Are the public schools, both country and city, properly inspected? I ask this because I have it from my son, who attends one of these schools, that the conditions are so insanitary that the basement is flooded during wet weather and the latrines are so bad that the stench from them infects the whole building. There is a serious menace to health here. Will the health authorities look into the matter, please? I don't like to mention the school in particular, because I do not want to bring the enmity of the school heads on my son, but perhaps in starting a general investigation I shall be doing an even better work than by making a point to draw attention to just the one building. There probably are others that need looking after. A. F.

* * *

A Kick at Slum Workers.

Dear Sir:

It is all very fine, that our charity workers and experts are so willing to investigate and try to improve the mode of living in the poor wards of our towns and cities, but prying into people's houses and scaring the women half to death, throwing the doors wide open and marching through the house with an air of, "We have come to deliver you out of the house of disease and poverty," and then leaving with a sigh of "That's too bad—we'll have to report it,"—all this is unnecessary and will not help them.

There is an objection among the settlement workers to the use of the word "slum"—what's in a name? Slum by any other name would contain the same dirt, stench and unsanitary conditions.

At a meeting of a Conference of Charities and Corrections recently one of the speakers remarked that the only way for a settlement worker to understand the people and their conditions, is to live among them. Live among them? Why, she may as well live out in the suburbs as live among them, for when she does make her home in the slums, it is one of comfort—airy, restful and clean—it is almost a little sanitarium, with every corner disinfected.

Now can a person living in such a home feel, really feel, the conditions of the people surrounding her? It is impossible! She does not sleep on an old mattress or dirty bed, in a room with four or five others, she does not do without her daily bath—she does not have to get up in the morning and, with a cup of coffee and a chunk of stale bread, hurry away to the sweatshop. To understand such conditions is to feel them, smell them, breath them in, and live them.

For instance, a man, after working hard all day, comes home in the evening, dirty and hungry. He never thinks of taking a bath, for to take a bath, he must go to some public bath house and wait for his "next," and a man who is tired does not care to go to all this trouble. Consequently, he goes to bed without his bath. Cleanliness does not appeal to him—he has no time to think of it—for he must be up with sunrise and away to another hard day's work, and taking a bath is as rare as a good chicken dinner.

Why talk to the poor man and woman

and tell them how to keep their homes clean and explain the necessity of sanitary conditions? His mind is constantly occupied with the one thought of how to maintain his family—how the rent will be paid or how long he will hold his job, and not sanitary conditions. The poor housewife does not neglect her household duties because she is lazy, but she is surrounded by so many little children, some crawling, some crying, this one cutting himself with a knife, that one getting into all kinds of mischief, and she, to help support the family, takes home from some factory a bundle of pants or coats to work on, and so has little time to think of beds being made, rooms swept and dusted, children's faces washed or even dinner being cooked. She is not responsible for the yards, the ash pit, or the slop box that has not been emptied for a week or two. She is told time and again that the windows should be kept open all the time.

It is far better that they are closed, and closed tight, for to open a window is to get a whiff of the gentle breeze from the slop box or neighboring stable, which fills the house with its intoxicating fragrance. Why come and repeat these same things to them—have they already not enough pangs? If you are going to help the people, you must know the fundamental cause, and try to prevent its growing.

Why is it the rich are appealed to at Thanksgiving and Christmas, or any other holiday? Why these large festivities, these celebrations for the poor for one big day, and perhaps months of hard work collecting contributions for these festivals? Will a Thanksgiving or Christmas dinner lighten the hearts of the poor? No, indeed. It will make them more miserable—it will show them what they are missing all the time.

Now, if these very charity workers, who so willingly and earnestly do all they can, instead of coming to the poor and continually reminding them of their infliction, would get after the property owners, tell them of the conditions and see that things are attended to, get after the employers of these large factories, where the poor man works from sunrise to sunset for a few paltry dollars and is driven like an animal instead of a human being; see that the poor man gets better pay, or in other words, gets paid for what he is doing, then he will have time to think of home conditions, to know his children, see more of them, and his eyes will be opened to his environments.

We will then have fewer defective children and fewer criminals. Why are these parents and children not so affectionate towards each other? It is not because they do not love each other. The poor father when he gets home is too tired and worried to take his little daughter upon his knee and tell her a story, or if he did, it would be a tale of suffering, one of hardship. It is your sympathy you offer, you who see this, but it is heartrending when you know it, feel it, and live it.

Fiat Justitia.

Meetings and Reports

The Manitoba Medical Association.

At the recent 1910 meeting of the Manitoba Medical Association held in Winnipeg, the all important question of tuberculosis was not only taken up and approval recorded of all the work done at present in that province, but also a firm conviction was expressed that the proper way to handle the question of advanced tuberculosis is not to centralize the treatment of such cases, but that in each municipality there should be constituted educational centres, not necessarily in association with a hospital, to teach the people how to care for their advanced cases, especially in the disposal of all bodily secretions and in the matter of clothing and feeding. Further, the association approved the appointment of a small but influential expert committee to watch this question and to make suggestions to the provincial government and board of health.

In respect of school hygiene, the following suggestions made by Dr. T. G. Hamilton were approved:

(1) That elementary hygiene should be made a compulsory subject of study for those who intend to qualify as school teachers.

(2) That hygiene and physiology should be given a prominent place in the normal school course for teachers.

(3) That whenever possible the instruction in these subjects given to intending teachers should be intrusted to specially qualified medical graduates.

In regard to the proposed school for the blind it was felt that owing to insufficient information as to the number of cases in Manitoba, the association could take no action. It was thought that in the matter of expert medical evidence that the president's suggestion of a body of medical experts acting judicially and appointed by the government was excellent. With regard to the affiliation of the association with the Canadian Medical Association, it was agreed that that matter be laid over pending the conference between their representatives and the Canadian Medical Association.

In reference to the College of Physicians and Surgeons of the province the association in committee recommended that it express its opinion as to the expediency of the transference from the university back to the College of Physicians and Surgeons of its examining powers for license to practise. The committee said they would welcome any scheme that would place this college in a more useful and beneficial relation to the medical profession of the province.

With regard to Dominion Medical federation the committee shared their president's regret at the present attitude of British Columbia, whereby the whole movement was at a standstill. The committee had received a resolution proposed by Dr. Moorhead and seconded by Dr. Turnbull: "That the energies of the M. M. A. should be directed towards making a success of the proposed journal of the Canadian Medical Association, rather than to the foundation of a provincial journal."

The report was adopted, and the recommendations agreed to.

Dr. J. R. Jones thought teachers who were certificated should undergo medical examination. He mentioned two cases where teachers had died from advanced tuberculosis, and he said they could

readily understand the risk run by young children being taught by teachers with advanced tuberculosis. If they had had to pass a medical test there would have been no such danger.

* * *

The Canadian Medical Protective Association.

The last report of the Canadian Medical Protective Association showed that 700 members had joined, and that only one had had to be defended on a case of alleged malpractice during the year.

* * *

The Canadian Medical Association.

At the recent convention of the Canadian Medical Association Dr. Stewart, of Halifax, submitted a report on school inspection. Dr. Stewart said:

"The case for medical inspection of schools lies first in the fact that in a large number of school children there are physical and mental conditions which are injurious to health and form a serious handicap in their education, or may constitute a menace to the health of their classmates; that many of these conditions can be prevented or remedied, that the recognition of these defects falls within the province of medical science, and that the first step towards their cure is accurate medical diagnosis.

"If there be any doubt as to the existence of defects, it can be set at rest by a study of the results of medical inspection in various centres. In the first annual report of the Chief Medical Officer of the Board of Education in England (published in the present year) it appears that about 10 per cent. of the children examined, on the eve of their leaving school, had such defects of vision as to call for examination by an ophthalmic surgeon, the vision being six-eighteenths or worse. Otorrhea was present in about 2 per cent., while 7 per cent. had a history of ear discharge, and, speaking generally, 5 per cent. had defective hearing.

"And as regards the condition of the teeth the school medical officer of Bradford made a special examination of the teeth of nearly 1,500 children between 5 and 13 years of age, and reports that only 6 per cent. had sound teeth.

"In Berlin in 1904-5 the number of newly registered children examined was about 35,000, and of these 8.5 per cent. had to be set back.

"Of all the children under medical oversight there was defective vision in 22.4 per cent., and general debility of such a degree as to incapacitate for ordinary school work in 13 per cent.

"Hogarth (Medical Inspection of Schools) estimates that over 80 per cent. suffer from defective teeth, 50 per cent. from various parasitic affections, 20 per cent. from defective vision, and 10 per cent. from such ailments as adenoids, anaemia and ear disease.

"Clean and healthy children have also a right to be protected from the results of contact with their dirty and neglected classmates.

"And the great question of the day, the question of tubercular infection, must not be lost sight of.

"Philip of Edinburgh points out that while the mortality from pulmonary tuberculosis is decreasing in Scotland, and decreasing in remarkable ratio in the years of early childhood, there is a rapid and striking increase in the death rate among children of from 10 to 14 years of age.

"Evidence is rapidly accumulating that it is especially during childhood and school life that the tuberculous seed finds a nidus."

Dr. Henry C. Coe, of New York, in his address on "The Old and New Gynaecology," compared the old methods with the new, and expressed satisfaction that

the old fads and fancies were passing away and that surgical operations were looked upon with more conservative eyes. He disapproved of any practitioner undertaking an operation that he was not well qualified to perform well. It was, he said, a duty that doctors owed to patients, to give them the best that money could obtain.

On the question of marriage, Dr. Coe gave it as his opinion that the state should control marriages. He thought it a shame that nothing was being done to better the human race while so much was being attained in connection with the brute creation. A good deal more attention seemed to be paid to cattle and horses than human beings.

Dr. J. C. Connell, dean of the faculty of medicine of Queen's University, gave an address on the old and the new, comparing the profession of twenty-five years ago with that of to-day. He could not see that the more difficult examinations and the higher standard for matriculation had been of any benefit. There was, he said, too much cramming of fact into students and too little thought.

Dr. C. J. Fegan, of British Columbia, and Dr. A. McPhedran, of Toronto, moved a resolution which was heartily endorsed, that the Government be asked to establish laboratories for the production and distribution of anti-toxine and other remedies for diseases like diphtheria.

The following officers were elected for the ensuing year:

President, Dr. Geo. E. Armstrong, Montreal; Vice-Presidents, the Presidents of Provincial Societies ex officio; General Secretary, Dr. E. W. Archibald, Montreal; Treasurer, Dr. H. B. Small, Ottawa; Local Secretaries, the Secretaries of Provincial Societies ex officio; Public Health and Hygiene, Dr. A. T. Shillington, Ottawa, with power to add.

* * *

An Oxford Club.

The American and Colonial Clubs, composed of Rhodes scholars at Oxford, have passed resolutions strongly approving the aims and objects of the Association for the International Interchange of Students. The first party left Liverpool on June 21st and is now touring Canada and the United States.

* * *

The World Peace Congress.

The Eighteenth Universal Peace Congress wil meet at Stockholm July 30th to August 5th. Though primarily a convention of delegates of the five hundred and more peace societies now in existence, it will enroll representatives from trade and labor associations, churches, philanthropic societies, civic clubs, educational and other institutions. The eighteenth congress, which was to have been held at Stockholm last year, was postponed because an extensive strike threatened to interfere with travel. But this year the way is clear.

Postscript

Operating for Cerebral Meningitis.

Dr. H. Mygind, of the University of Copenhagen, who is at present visiting America, reports in an interview as follows:

"A case of meningitis has always been thought of as hopeless and physicians have not even tried to cure it. It is comparatively rare in occurrence and few persons have had an opportunity to become acquainted with it.

"I have proved that the disease can be successfully treated by operating. I have had a large number of cases and have secured remarkably good results.

"The operation consists in making a hole in the mastoid, opening the skull to expose the brain and removing the inflamed membrane. As in appendicitis, this should be done within a short time after the trouble sets in. I get patients into my hospital and operate within forty-eight hours when it is possible."

* * *

Ventilation.

Physicians agree that when natural ventilation is properly and scientifically applied it invariably proves more successful than mechanical or other forms of artificial ventilation, and it has the advantage that it cannot get out of order nor break down, and costs but little to apply and nothing to maintain.

One of the best systems of natural ventilation is that obtained by the use of the Universal No-Draught Ventilator, the invention of Mr. J. A. Glass of Leader Lane, Toronto. By the use of this ventilator, which is sold by the foot so that it may fit any window, plenty of fresh air is admitted while annoying draughts are avoided and flies, dust and rain prevented from entering. At the same time impure air escapes in a simple and efficient manner.

* * *

Other Babies.

To give babies of the slums the same hygienic advantages as the babies of the boulevards when they come into the world and afterwards, is the purpose of a movement being organized in Kansas City.

A society of child hygiene is proposed to work with the board of health and the board of public welfare. The members of these two boards and representatives of various humanitarian institutions of the city have been invited to attend in a letter outlining what other cities are doing and what that city must do to give "baby" a chance for life.

* * *

A Bequest.

The secretary-treasurer of the Canadian National Sanatorium Association, Mr. J. S. Robertson, has been advised of the bequest of $500 from an old gentleman who had resided in Simcoe County, Ontario. He had a favorite pony, and according to the will, this $500 is to be invested and the interest on same paid annually for the keep of the pony. At the pony's death the money is to go to the Muskoka Free Hospital for Consumptives. The old gentleman also left $500, invested in the same way, for a favorite dog.

* * *

An Efficient Disinfectant.

Dr. F. Schavoir, Health Officer at Stamford, Conn., writes as follows: "I

Duncan Anderson, M.D. =*Publishing Committee*= L. M. Coulter, M.D.

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and
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have opened correspondence with a firm for the furnishing of disinfectants in large quantities, and after thoroughly investigating the efficacy claimed for their preparation, I feel safe in recommending same. The chief advantage I have found in the Rapid Cleaning Cartridge Disinfectant is the rapidity with which it permeates all material with which it comes in contact." Mr. Otto S. E. Veit, of 28 Wellington Street West, Toronto, Ont., is the Canadian agent for the Rapid Cleaning Cartridge.

* * *

The Canadian Oral Prophylactic Association.

In the year 1905 a committee of dentists of Toronto was formed to communicate with the manufacturers of the tooth preparations then on the market to ascertain the composition of each, because they believed that a dentist should

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"The Inhibitory Action of Listerine," a 208-page book, descriptive of the antiseptic, and indicating its utility in medical, surgical and dental practice, may be had upon application to the manufacturers, Lambert Pharmacal Company, Saint Louis, Missouri, but the best advertisement of Listerine is—

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not recommend any preparation of which he did not know the ingredients.

Finding there was no satisfaction to be obtained in this direction as to the formulae of these preparations, arrangements were made to have them chemically analyzed, thus ascertaining that in most of the samples were ingredients which should not exist in an ideal mouth preparation.

The Canadian Oral Prophylactic Association was then organized to have manufactured preparations which should contain nothing which was not beneficial.

After much consideration and consultation a paste was manufactured under the registered name "Hutax" (meaning mouth health). Later a powder was placed on the market, and last a tooth brush.

These articles are the result of frequent consultations with many of the leading practitioners, not only in Toronto, but of the Dominion of Canada and the United States.

The shareholders of the Canadian Oral Prophylactic Association originally subscribed $5.00 each for "the good of the cause," and the charter of incorporation provides that the profits are to be expended for educational and philanthropic purposes, such as (a) bringing prominently before the public important information, which the dentist has, as to the influence of conditions of the mouth on the general health. (b) Care of the teeth of the poor. (c) Assisting the indigent in the profession of dentistry. Thus no director or shareholder receives directly or indirectly any dividends or other remuneration.

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No. 53	Blaud	5 grs.
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	Arsenical solution	= 1 min.
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	Arsenical solution	= 2 mins.
	Ext. Nux Vomita	¼ gr.

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	Strychnine	1-50 gr.

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No. 65	Blaud	– 10 grs.
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* * *

Waxing Old.

"Mamma," said little Dorothy, "I want some water to christen my doll."

"No, dear," replied her mother, "it's wrong to make sport of such things."

"Then I want some wax to waximate her. She's old enough to have something done."

* * *

Basement Bakeries.

It is an interesting index of the popular feeling on the subject of sanitation and food that a jury of twelve ordinary men should have assessed the maximum fine of $200 against a Chicago restaurant for maintaining an insanitary basement bakeshop.

Officials of that city's health depart-

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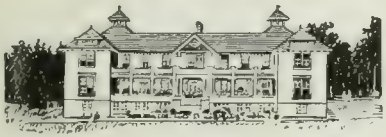

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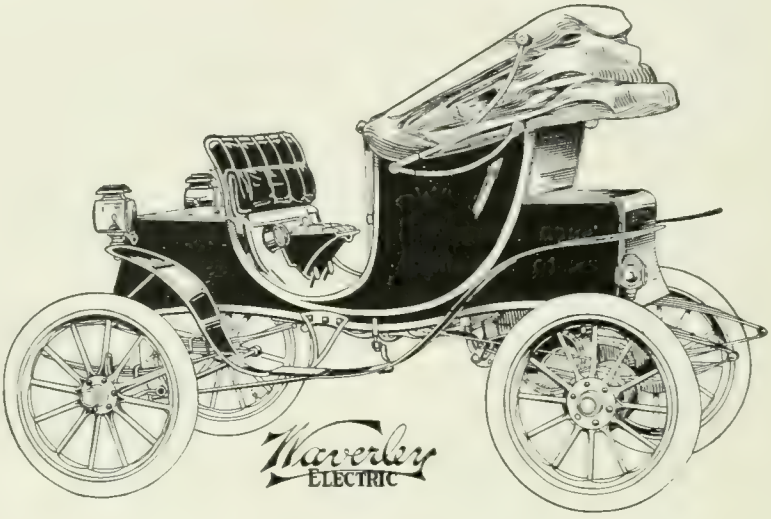

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ment testified that during the recent heavy rains the bakeshop was flooded by the backing up of the street sewers and the jury lost no time in concluding that such a situation was a menace to the health of the patrons of the restaurant who consumed goods made under such surroundings and was insanitary within the meaning of the act.

When Commissioner Evans was fighting for his Chicago ordinance forbidding the manufacture of bakery supplies in a basement, the assertion was made that his position was extreme and preposterous and that the public had no objection to bakeshops located underground. The verdict of this jury shows, on the contrary, that the average man is offended at the conditions which threaten the basement bakery and that it would not take much to persuade him that all such underground establishments should be abolished by city ordinance.

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The American Medical Editors' Association met last month at St. Louis, Mo., under the presidency of Dr. W. A. Young of Toronto. The attendance exceeded that of any previous year, and included nearly 200 medical editors from all over America and Great Britain.

This was the first time in the forty-one years since the association became incorporated that a Canadian medical editor occupied the chair of president.

Papers were read by eminent medical editors from New York, Chicago, Washington and other large cities in the United States. The meeting closed June 6th, with the annual banquet, when addresses were delivered by Surgeon-General Wyman of the U. S. navy department at Washington, the Hon. W. Barth of St. Louis, Dr. C. H. Hughes of St. Louis, Dr. H. O. Marcy of Boston and others.

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